October 15, 2018

VIA ELECTRONIC FILING

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

       Re: O3b Limited
       IBFS File No. SES-LIC-20180122-00053
       Call Sign: E180005

Dear Ms. Dortch:

Pursuant to ongoing communications with the Commission's Satellite Division, O3b Limited ("O3b") hereby submits additional analysis for its E180005 earth station to update its showing that the earth station meets the standards of 47 C.F.R. § 25.136(a)(4) of the Commission's rules and that O3b is not required to protect future Upper Microwave Flexible Use Service ("UMFUS") deployments in the 27.6-28.35 GHz band.

In its application for this earth station, O3b made a showing pursuant to 47 C.F.R. § 25.136(a), which describes the circumstances that allow an earth station licensee to operate without being obligated to protect UMFUS stations. *See* File No. SES-LIC-20180122-00053 (the "E180005 Application"), granted March 8, 2018.

At the request of the Commission, O3b has prepared a revised analysis that assumes less favorable conditions when demonstrating the potential impact of its PFD contour. This new analysis is attached as Annex 1 to this letter. The new analysis demonstrates that even under these less favorable assumptions, the E180005 earth station will still meet the population limits of 47 C.F.R. § 25.136(a)(4) and is therefore qualified to operate without providing interference protection to future UMFUS stations.

In light of this showing, O3b requests that the Commission update the E180005 earth station license terms to reflect the earth station's compliance with the criteria articulated in Section 25.136(a)(4) of the Commission's rules. Doing so will serve the public interest by authorizing O3b operations at its earth station consistent with Commission policies.

Respectfully submitted,

/s/ Suzanne Malloy
Vice President of Regulatory Affairs
O3b Limited
900 17th Street NW, Suite 300
Washington, DC 20006

Attachment

Annex 1 – Revision of PFD Contour Analysis

The following analysis clarifies or revises some of the assumptions used in O3b Limited's application for an earth station in Hawaii County, Hawaii (the "E180005 Earth Station") under Section 25.136(a)(4) of the Commission's rules. Based on these clarifications and amendments, an updated PFD contour and population coverage estimate is provided.

The analysis in the original application assumed that the actual antenna deployed would have at least 1 dB better performance than the Recommendation ITU-R S.580 antenna pattern. Based on guidance from the Commission, the revised showing uses the antenna pattern from Recommendation ITU-R S.580[1] with no performance adjustment.

The original application also assumed that there would be at least 1 dB of clutter loss around the transmitting earth station and 1 dB of clutter loss around the receiving UMFUS station. The updated analysis employs available land use models to more accurately determine the clutter losses of the geography, and the 2 dB clutter losses were removed to ensure maximum interference is considered.

For terrestrial propagation, the percentage of time (p) the basic propagation losses are not exceeded is needed in order to estimate the likelihood that interference will occur at a certain distance. The value used in this analysis is 20%. Therefore, for 80% of the time the basic propagation losses are higher than assumed here, and the interference from the FSS earth station into the UMFUS is less. In other words, the PFD contour will be smaller than that used in the below analysis 80% of the time.

Based on the above clarifications and amendments, the following plot illustrates the PFD contour obtained when using the Visualyse PRO software (exported and displayed in Google Earth).

---

[1] Recommendation ITU-R S.580, "Radiation diagrams for use as design objectives for antennas of earth stations operating with geostationary satellites."
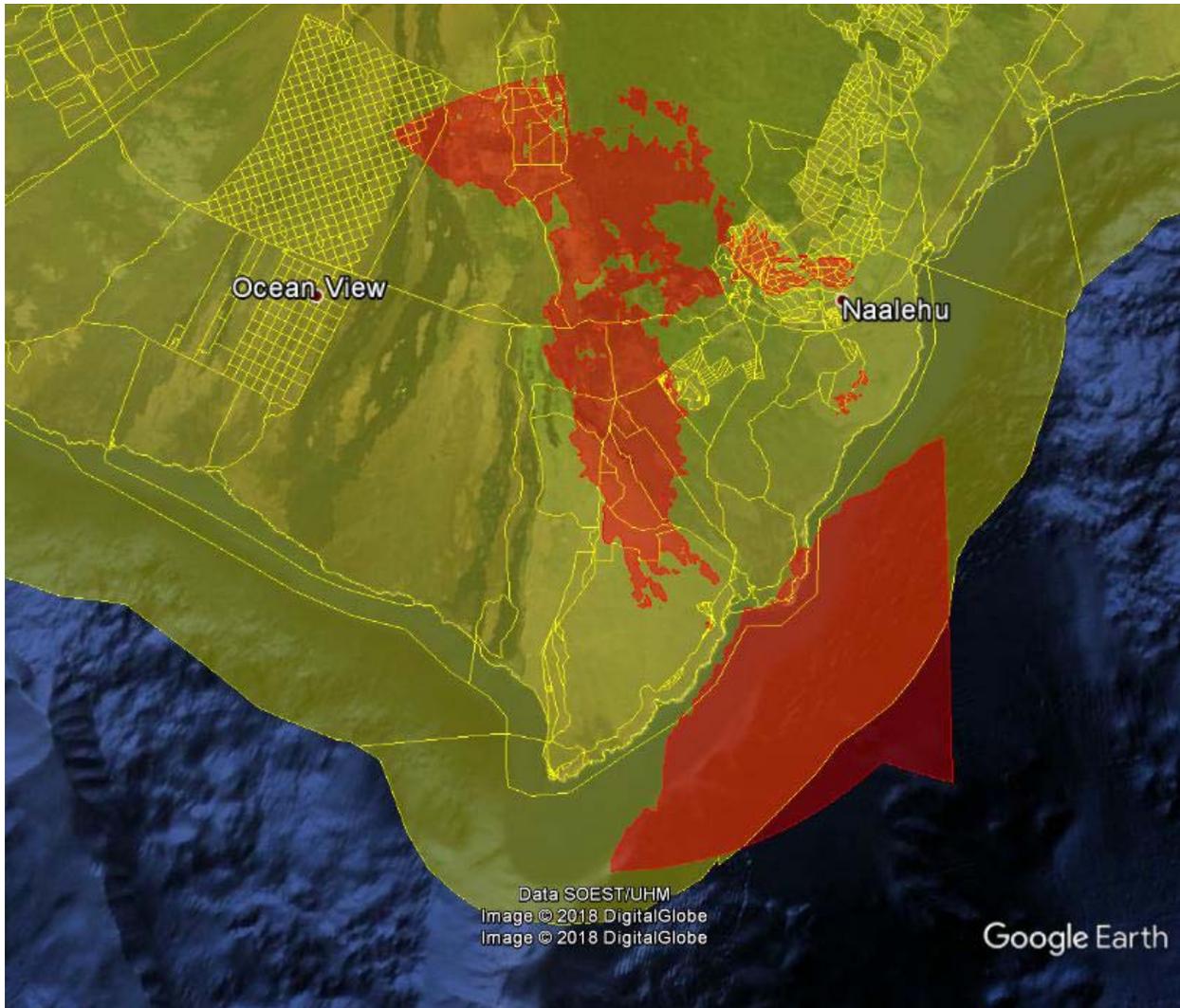
For each block group that intersects with the PFD contour, the population data is determined based on the proportional method, which uses the percentage of area of the block group that overlaps with the PFD contour to calculate the covered population. The following list shows the block group IDs and corresponding population covered.

Block ID: 150010212022003; Population: 17.4
Block ID: 150010212022300; Population: 0
Block ID: 150010212022281; Population: 0
Block ID: 150010212022296; Population: 0
Block ID: 150010212022377; Population: 0
Block ID: 150010212022303; Population: 0
Block ID: 150010212022378; Population: 0
Block ID: 150010212022351; Population: 0
Block ID: 150010212022344; Population: 3.1
Block ID: 15010212022413; Population: 4
Block ID: 150010212022689; Population: 0.8
Block ID: 150010212022422; Population: 0
Block ID: 150010212022766; Population: 0

Block ID: 150010212022078; Population: 0
Block ID: 150010212024009; Population: 0
Block ID: 150010212023112; Population: 6.2
Block ID: 150010212022072; Population: 0
Block ID: 150010212023152; Population: 3
Block ID: 150010212022054; Population: 0
Block ID: 150010212023117; Population: 28.3
Block ID: 150010212023160; Population: 20
Block ID: 150010212023162; Population: 0
Block ID: 150010212022306; Population: 0
Block ID: 150010212022301; Population: 0
Block ID: 150010212022297; Population: 0
Block ID: 150010212022280; Population: 0
Block ID: 150010212022291; Population: 0
Block ID: 150010212022295; Population: 0
Block ID: 150010212022309; Population: 0
Block ID: 150010212022678; Population: 3
Block ID: 150010212022771; Population: 0
Block ID: 150010212022417; Population: 0
Block ID: 150010212024034; Population: 0
Block ID: 150010212023151; Population: 46.9
Block ID: 150010212023129; Population: 8
Block ID: 150010212023153; Population: 1
Block ID: 150010212023187; Population: 0
Block ID: 150010212022283; Population: 0
Block ID: 150010212022310; Population: 0
Block ID: 150010212022274; Population: 0
Block ID: 150010212022286; Population: 0
Block ID: 150010212022380; Population: 0
Block ID: 150010212022356; Population: 0
Block ID: 150010212022307; Population: 0
Block ID: 150010212022357; Population: 0
Block ID: 150010212022355; Population: 0
Block ID: 150010212024026; Population: 0.3
Block ID: 150010212022776; Population: 1.1
Block ID: 150010212024021; Population: 0
Block ID: 150010212022416; Population: 0
Block ID: 150010212023161; Population: 2
Block ID: 150010212023157; Population: 0
Block ID: 150010212023158; Population: 0
Block ID: 150010212022266; Population: 0
Block ID: 150010212022278; Population: 0
Block ID: 150010212022279; Population: 0
Block ID: 150010212022284; Population: 0
Block ID: 150010212022273; Population: 0
Block ID: 150010212022282; Population: 0
Block ID: 150010212022292; Population: 0
Block ID: 150010212022358; Population: 0
Block ID: 150010212022346; Population: 0

Block ID: 150010212022342; Population: 0
Block ID: 150010212024050; Population: 2.1
Block ID: 150010212023188; Population: 10
Block ID: 150010212022691; Population: 0.7
Block ID: 150010212022046; Population: 0
Block ID: 150010212022106; Population: 0
Block ID: 150010212022289; Population: 15.2
Block ID: 150010212023191; Population: 11.9
Block ID: 150010212024040; Population: 0
Block ID: 150010212022401; Population: 12.4
Block ID: 150010212022020; Population: 0
Block ID: 150010212022276; Population: 0
Block ID: 150010212022065; Population: 0
Block ID: 150010212022294; Population: 0
Block ID: 150010212022298; Population: 0
Block ID: 150010212022349; Population: 0
Block ID: 150010212022313; Population: 0
Block ID: 150010212022314; Population: 0
Block ID: 150010212022677; Population: 0.8
Block ID: 150010212022005; Population: 0
Block ID: 150010212023114; Population: 0.9
Block ID: 150010212024035; Population: 0
Block ID: 150010212023189; Population: 0
Block ID: 150010212023126; Population: 0
Block ID: 150010212023165; Population: 0
Block ID: 150010212024062; Population: 0.7
Block ID: 150010212022064; Population: 0
Block ID: 150010212022033; Population: 0
Block ID: 150010212022063; Population: 0
Block ID: 150010212022275; Population: 0
Block ID: 150010212022302; Population: 0
Block ID: 150010212022304; Population: 0
Block ID: 150010212022312; Population: 0
Block ID: 150010212022311; Population: 0
Block ID: 150010212024001; Population: 1.2
Block ID: 150010212022410; Population: 0.4
Block ID: 150010212022690; Population: 0
Block ID: 150010212022421; Population: 0
Block ID: 150010212022767; Population: 0
Block ID: 150010212022769; Population: 0
Block ID: 150010212023164; Population: 0
Block ID: 150010212022415; Population: 0
Block ID: 150019901000002; Population: 0
Block ID: 150010212023128; Population: 0
Block ID: 150010212022299; Population: 1.7
Block ID: 150010212022277; Population: 0
Block ID: 150010212022287; Population: 0
Block ID: 150010212022379; Population: 0
Block ID: 150010212022362; Population: 0

Block ID: 150010212022350; Population: 0
Block ID: 150010212022343; Population: 0
Block ID: 150010212022305; Population: 0
Block ID: 150010212022778; Population: 0
Block ID: 150010212022095; Population: 0
Block ID: 150010212022419; Population: 0
Block ID: 150010212022018; Population: 0
Block ID: 150010212022004; Population: 0
Block ID: 150010212023182; Population: 0
Block ID: 150010212023116; Population: 14.4
Block ID: 150010212022414; Population: 2
Block ID: 150010212023132; Population: 2.1
Block ID: 150010212022021; Population: 0
Block ID: 150010212023159; Population: 0
Block ID: 150010212022308; Population: 0
Block ID: 150010212022040; Population: 0
Block ID: 150010212022288; Population: 0
Block ID: 150010212022376; Population: 0
Block ID: 150010212022352; Population: 0
Block ID: 150010212022354; Population: 0
Block ID: 150010212022353; Population: 0
Block ID: 150010212022315; Population: 0
Block ID: 150010212024032; Population: 0
Block ID: 150010212022029; Population: 0
Block ID: 150010212022770; Population: 0
Block ID: 150010212024088; Population: 0
Block ID: 150010212022420; Population: 0
Block ID: 150010212023192; Population: 0
Block ID: 150010212023120; Population: 23
Block ID: 150010212023127; Population: 6
Block ID: 150010212023163; Population: 6
Block ID: 150010212023166; Population: 0
Block ID: 150010212023121; Population: 9.3

Based on these calculations, the total population covered by the E180005 Earth Station's PFD contour is 266.