

JAN 24 2007

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# A BILL FOR AN ACT

RELATING TO SPACE OPPORTUNITY ZONES.

**BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:**

1           SECTION 1. The legislature finds that the United States  
2 space industry began to flourish soon after World War II, fueled  
3 by the expertise of former German rocket scientists and military  
4 funding. Driven by national security interests and the Russian  
5 sputnik, the federal government created the National Aeronautics  
6 and Space Agency (NASA), a civilian government agency, to lead a  
7 program of space exploration, which culminated in the landing of  
8 American astronauts on the moon in 1969.

9           All space work, both military and civilian, use rockets to  
10 boost various types of payloads into space. In the early days,  
11 launch vehicles were used only once and not recovered for reuse.  
12 This "expendable launch vehicle" system proved expensive. As a  
13 result, NASA opted for a system in the early 1970s that deployed  
14 a space shuttle intended to be reused for up to a hundred  
15 launches and recoveries. As the space shuttle system replaced  
16 the expendable launch vehicle system, American production of  
17 one-use only launch vehicles declined. Nonetheless, in the



1 1980s, the idea of commercializing launch services and putting  
2 privately-owned payloads such as communications satellites into  
3 space, rather than relying solely on NASA, was championed by  
4 then-president Reagan. However, because NASA proved that its  
5 space shuttle program was reliable and because it aggressively  
6 set launch prices low in response to competition from  
7 Arianespace, the European Space Agency's expendable launch  
8 vehicle program with launch facilities in South America, plans  
9 for developing private launch facilities in America foundered.  
10 In effect, the federal government was then subsidizing the  
11 launch of private cargo into space to compete with the European  
12 Space Agency while discouraging the development of a domestic  
13 commercial space launch industry.

14 Later, the twin tragedies of the Challenger and Columbia  
15 disasters in 1986 and 2003 sharply refocused attention on the  
16 reliability of the space shuttle system and the wisdom of  
17 relying solely on one space launch system. For example, NASA's  
18 planned thirty or so launches for 1986 and 1987 were delayed or  
19 cancelled for two years, incurring massive losses. Expendable  
20 launch vehicle systems, including Arianespace's system, have  
21 become attractive again for the many military, civilian,  
22 commercial, and foreign cargos that need to be launched.



1 Furthermore, NASA no longer accepts foreign or commercial cargos  
2 for launch, with certain exceptions, in order to create a market  
3 for American commercial launch services. In addition to  
4 commercial and scientific payloads both domestic and foreign,  
5 the potential domestic launch market includes military-related  
6 contracts.

7 In Hawaii, as far back as the early days of NASA, the State  
8 has been considered a possible site for a space launch facility.  
9 In the middle of the Pacific Ocean, Hawaii is the only location  
10 in the country from which satellites can be launched into any  
11 orbital inclination without having to fly over populated areas.  
12 Cape Canaveral, home of the Kennedy Space Center, has similar  
13 advantages but Hawaii is completely, not partially, surrounded  
14 by ocean waters. Barking Sands, the home of the Pacific Missile  
15 Range Facility, encompasses forty-two thousand square miles of  
16 sea and air space and has minimal encroachments including air  
17 and sea travel routes. Where a launch company would need to  
18 build and maintain two separate launch pads and crews to place  
19 payloads into any orbit (one at Vandenberg Air Force Base in  
20 California for polar launches and one at Cape Canaveral in  
21 Florida for equatorial launches), a single pad and crew in  
22 Hawaii would provide the same capability. In the early 1990s, a



1 single launch complex cost about \$150,000,000 to build and about  
2 \$7,000,000 to maintain annually. In addition, the cost to  
3 transport equipment, payloads, and personnel from coast to coast  
4 would be eliminated. Avoiding this duplication in cost would be  
5 a significant advantage for any potential launch company.

6 Furthermore, compared to Cape Canaveral, Hawaii's low  
7 latitude is more efficient for launches into geosynchronous  
8 orbits. The closer a site is to the equator, the more it can  
9 take advantage of the boost from the Earth's rotation when  
10 launching payloads into equatorial orbit. Launches from higher  
11 altitudes require additional propellant to perform extra  
12 maneuvers to achieve equatorial orbit. Thus, Hawaii's lower  
13 altitude enables heavier payloads to be launched that extend the  
14 lifetimes of vehicles up to twenty per cent or more because the  
15 extra fuel a Hawaii-launched vehicle carries can be saved for  
16 on-orbit use rather than for maneuvering just to get into  
17 equatorial orbit. Compared to an equivalent launch from  
18 Tanegashima, Japan, a satellite launched from Hawaii would have  
19 its useful lifetime extended by more than twenty-three per cent.

20 Hawaii's location in the Pacific also means that its  
21 business day overlaps with those of cities in North America,



1 Asia, and Australia and fiber optic cable connects the United  
2 States mainland and Asia through Hawaii.

3 From a commercial perspective, a Hawaii launch facility  
4 also has comparative advantages. Because there are no  
5 commercial launch facilities in this country, all U.S.-based  
6 launch companies must use government ranges and facilities at  
7 Cape Canaveral and Vandenberg Air Force Base, and thus be  
8 subject to:

- 9 (1) The government's ability to preempt commercial  
10 launches;
- 11 (2) The lack of subsequent agreements to establish firm  
12 prices for range use; and
- 13 (3) The degree to which liability is placed on the  
14 commercial launch service provider, their  
15 subcontractors, and customers.

16 Since Hawaii's launch facility would be commercial rather than  
17 military, launch companies would have greater control over  
18 schedules, prices, regulatory structures, and liabilities.

19 The State's moderate climate, where squall lines,  
20 thunderstorms, and lightning strikes are very rare, also permits  
21 more launches per year than from mainland facilities.



1           The establishment of a space launch facility in Hawaii will  
2 create high-level, high-income, non-minimum wage jobs that will  
3 significantly support and expand the State's tax revenue base.  
4 These jobs will help to further diversify Hawaii's economy away  
5 from the visitor industry and further strengthen the State's  
6 technology and space industry sectors. A Hawaii space and  
7 technology center or launch facility would help to stem the  
8 educational brain drain by offering jobs in electronic,  
9 chemical, and industrial engineering, computer sciences,  
10 communications, telemetry, astronomy, and various fields of  
11 research and development to our educated young workers who can  
12 then remain and work in a place they call home.

13           In the past, there have been rocket launches in Hawaii. In  
14 the 1960s, as part of the Air Force Western Testing Range, a  
15 thirty-three acre facility near South Point on the Big Island  
16 was the site of several rocket launches primarily for weather  
17 sampling and rocket testing purposes. However, usage declined  
18 in the 1970s and the parcel was declared surplus land by the  
19 federal government in 1981.

20           After an abortive attempt to establish a commercial space  
21 launch facility near South Point in 1982, interest in the idea  
22 was renewed again by the late Senator Spark Matsunaga in 1986,



1 who proposed establishing an international space center in  
2 Hawaii to stimulate international cooperation in the development  
3 of space for peaceful purposes. Interest in the concept was  
4 grounded in and supported by the existence of a significant  
5 space and technology industry in Hawaii mainly revolving around  
6 the various astronomical observatories located on the islands of  
7 Hawaii and Maui.

8 The Pacific Missile Range Facility is a rocket launch site  
9 at Barking Sands on the western shore of the island of Kauai  
10 operated by the United States Navy that includes testing missile  
11 defense systems. The facility is the world's largest  
12 instrumented multi-environment range capable of supporting  
13 surface, subsurface, air, and space operations simultaneously.  
14 This capability allows range users extraordinary flexibility in  
15 planning and conducting realistic multi-participant, multi-  
16 threat operations to train crews, evaluate tactics, and test  
17 weapon systems.

18 In 1997, the United States Navy proposed testing a new  
19 defense against short-range ballistic missiles at the Barking  
20 Sands beginning in 1999, an addition of only a half-dozen  
21 launchings at a facility that averages eighty launches a year.  
22 The proposal was protested on political, environmental, and



1 cultural grounds, deeming it a search for imaginary new enemies,  
2 an intrusion on the breeding grounds for monk seals and green  
3 sea turtles, and an affront to burial grounds at the nearby  
4 Nohili dunes. The earlier Strategic Target System (STARS), the  
5 long-range missile defense system, had also been protested on  
6 similar grounds at Barking Sands although only four of the  
7 planned forty payloads ever materialized. Then-governor  
8 Cayetano supported the expanded launches and cited benefits for  
9 the Kauai economy in the form of jobs and an infusion of federal  
10 moneys. Kauai county officials considered the Barking Sands  
11 range as the largest and most stable economic element on the  
12 island and reported that in 1996, the facility contributed  
13 \$45,000,000 in wages and salaries, \$8,200,000 in construction  
14 spending, \$41,000,000 in contracts, \$12,000,000 in purchases,  
15 \$3,100,000 in utility payments, and \$4,000,000 in military and  
16 civilian contractor visits. As for jobs, in 1996 the Barking  
17 Sands labor force consisted of nine hundred workers of which the  
18 great majority, seven hundred eighty-seven, was civilian.

19 One prominent characteristic of space launch sites is that  
20 they must be surrounded by vast areas of "non-encroachment".  
21 That is, launch sites must guard against intentional or  
22 inadvertent intrusion into its operating spaces by unauthorized





1 individuals or by vehicles entering by air, land, or sea. The  
2 Barking Sands facility is a prime example. Located on the  
3 western shore of Kauai, its missile tracking and telemetry  
4 operations need to have vast areas surrounding the base clear of  
5 air and sea routes as well as underwater traffic. Cape  
6 Canaveral and Vandenberg Air Force Base, the two government  
7 space launch sites, also operate using large non-encroachment  
8 zones. Because these zones are protected areas, they serve a  
9 dual purpose and have attained significant environmental value  
10 as wildlife sanctuaries and have contributed to the preservation  
11 of not only endemic species but the land itself surrounding the  
12 launch sites.

13 Launching rockets into space produces certain by-products  
14 such as chemicals, propellants, and combustion products released  
15 during launch. However, these pale in comparison both in volume  
16 and severity with volcanic emissions from the Big Island.  
17 Another potential environmental effect could be acoustic and  
18 shock wave overpressure levels in areas affected by the launch.  
19 However, launch sites require large non-encroachment areas and  
20 would likely be located in isolated geographic areas where such  
21 acoustic effects would be minimized. One environmental effect  
22 appears difficult to mitigate if a launch site is located on the



1 island of Hawaii: potential light and radio frequency  
2 interference with astronomy instrumentation on the Big Island's  
3 observatories.

4 A 1987 study commissioned by the State asserted that a  
5 space launch facility in the State would require sufficient  
6 undeveloped land to accommodate four launch pads and a safety  
7 buffer zone of at least 2.9 miles. Wherever the eventual launch  
8 facility is located, it will put to use a significant portion of  
9 presently unproductive lands. If sited on the Big Island, it  
10 would help to maximize the use of, and breathe life into, Hilo  
11 harbor and airport.

12 The study identified eight general locations capable of  
13 launching payloads into both polar and equatorial orbits without  
14 flying over local populated areas. Eleven secondary criteria  
15 were used to assess each area's ability to support launch-  
16 related operations including:

- 17 (1) Geologic conditions;
- 18 (2) Archeology;
- 19 (3) Land availability and ownership;
- 20 (4) Residential and other development patterns;
- 21 (5) Transportation access and the ability to service  
22 launch facility infrastructure needs;



- 1           (6) Environmental issues;
- 2           (7) Social issues;
- 3           (8) Cultural issues;
- 4           (9) Impact on astronomical observations;
- 5           (10) Air traffic; and
- 6           (11) Sea traffic.

7 The study concluded that the southern portion of the Kau  
8 district of the Big Island is the preferred location.

9           The purpose of this Act is to realize the full potential  
10 for developing Hawaii's space industry by establishing space  
11 opportunity zones to accommodate the entry into the State of  
12 space qualified businesses, including space launch companies,  
13 with a minimum of red tape.

14           The intent of the legislature is to have the groundwork  
15 prepared in anticipation of the entry of qualified businesses  
16 that are willing and able to invest in the State to develop  
17 Hawaii's space industry by having certain areas in the  
18 respective counties designated as space opportunity zones, with  
19 all the necessary environment impact statements performed and in  
20 place, and by expediting the issuance of necessary county  
21 permits, in consultation with the respective counties through  
22 their active participation in an advisory committee.



1 SECTION 2. The Hawaii Revised Statutes is amended by  
2 adding a new chapter to be appropriately designated and to read  
3 as follows:

4 "CHAPTER

5 SPACE OPPORTUNITY ZONES

6 § -1 Purpose. The purpose of this chapter is to realize  
7 the full potential for developing Hawaii's space industry,  
8 especially by putting to use otherwise unproductive land, by  
9 accommodating the entry into the State of qualified businesses  
10 by providing for the establishment of space opportunity zones.

11 § -2 Definitions. As used in this chapter, unless the  
12 context clearly requires otherwise:

13 "Department" means the department of business, economic  
14 development, and tourism.

15 "Director" means the director of business, economic  
16 development, and tourism.

17 "Establishment" means a single physical location where a  
18 space business conducts operations. A qualified business may  
19 include one or more establishments, any number of which may be  
20 in a space opportunity zone.



1 "Full-time employee" means any employee for whom the  
2 employer is legally required to provide employee fringe  
3 benefits.

4 "Qualified business" means any space business that is:

- 5 (1) Authorized to do business in this State;
- 6 (2) Qualified under section -8; and
- 7 (3) Engaged in operating a business within the definition  
8 of "space business".

9 "Space business" means any business that is involved with  
10 conducting operations in space ore space-related activities  
11 including a facility that launches various payloads into space,  
12 but that does not include terrestrial observatories, pursuant  
13 further to rules adopted under section -3 by the department  
14 of business, economic development, and tourism.

15 "Space opportunity zone" means an area:

- 16 (1) Designated by the director of business, economic  
17 development, and tourism under this chapter in  
18 consultation with the space opportunity zone advisory  
19 committee;
- 20 (2) That is within the jurisdiction of a county  
21 government; and
- 22 (3) That is eligible for the benefits under this chapter.



1 "Taxes due the State" means income taxes due under chapter  
2 235.

3 § -3 **Space opportunity zone designation; consultation**  
4 **with space opportunity zone advisory committee; rules.** (a) The  
5 director, in consultation with the space opportunity zone  
6 advisory committee, shall:

7 (1) Designate areas within the State as space opportunity  
8 zones;

9 (2) Establish criteria for determining which areas qualify  
10 as space opportunity zones;

11 (3) Determine what types of space businesses shall be  
12 approved for each designated space opportunity zone;

13 (4) Determine the number of areas in each county that may  
14 be designated as space opportunity zones; and

15 (5) Set the period of time an area shall remain a  
16 designated space opportunity zone.

17 (b) The director shall adopt rules in accordance with  
18 chapter 91 to carry out the effect of this chapter, including  
19 rules to clarify the definition of "space business" pursuant to  
20 section -2.

21 § -4 **Environmental impact statement; county issuance of**  
22 **permits; reports.** (a) The director shall:



1           (1) Perform the necessary environmental impact statement  
2           or statements for the type of space business approved  
3           by the director in a designated space opportunity  
4           zone; and

5           (2) Cooperate with the relevant county in which a  
6           designated space opportunity zone is located to  
7           expedite the issuance of all necessary county permits  
8           by June 30, 2008.

9           (b) The director shall submit annual reports evaluating  
10          the effectiveness of this chapter, including any recommendations  
11          for legislation to the legislature and the governor.

12          §   -5 **Government assistance; prohibition.** There shall be  
13          no duplication of existing state tax incentives to qualified  
14          businesses that locate in a space opportunity zone.

15          §   -6 **Rules; consultation with county.** The department,  
16          in consultation with each relevant county, shall adopt rules in  
17          accordance with chapter 91 to implement this chapter, including  
18          rules relating to health, safety, building, planning, zoning,  
19          and land use, which shall supersede all other inconsistent  
20          ordinances and rules relating to the use, zoning, planning, and  
21          development of land and construction in a space opportunity  
22          zone. Rules adopted under this section shall follow existing



1 law, rules, and ordinances as closely as is consistent with  
2 standards meeting minimum requirements of energy efficiency,  
3 health, and safety. The department may provide by rule that  
4 lands within a space opportunity zone shall not be developed  
5 beyond existing uses or that improvements thereon shall not be  
6 demolished or substantially reconstructed, or provide other  
7 restrictions on the use of the zone.

8       § -7 **Space opportunity zone advisory committee.** (a)

9 There is established a space opportunity zone advisory  
10 committee, to be placed within the department for  
11 administrative purposes. The advisory committee shall consist  
12 of six members appointed by the governor pursuant to section 26-  
13 34 as follows:

- 14       (1) One member knowledgeable in the space industry from  
15             the department of business, economic development, and  
16             tourism, who shall serve as chairperson;
- 17       (2) One member representing the office of Hawaiian  
18             affairs; and
- 19       (3) Four members representing each of the mayors of the  
20             respective counties.





1 (b) Members shall not be compensated but shall be  
2 reimbursed for necessary expenses, including travel expenses,  
3 incurred in the course of carrying out their duties.

4 (c) The advisory committee shall provide consultation to  
5 the director regarding matters enumerated in section -3.

6 § -8 Eligibility; qualified business; sale of property

7 or services. (a) Any space business may be eligible to be  
8 designated a qualified business for purposes of this chapter if  
9 the space business:

10 (1) Begins the operation of a space business within a  
11 space opportunity zone;

12 (2) During each taxable year has at least per cent  
13 of its space opportunity zone establishment's gross  
14 receipts attributable to the active conduct of a space  
15 business within the space opportunity zone;

16 (3) Increases its average annual number of full-time  
17 employees by at least per cent by the end of its  
18 first tax year of participation; and

19 (4) During each subsequent taxable year at least maintains  
20 that higher level of employment.



1 (b) A space business also may be eligible to be designated  
2 a qualified business for purposes of this chapter if the space  
3 business:

4 (1) Is actively engaged in conducting a space business in  
5 an area immediately prior to an area being designated  
6 a space opportunity zone;

7 (2) Meets the requirements of subsection (a)(2); and

8 (3) Increases its average annual number of full-time  
9 employees employed at the space business's  
10 establishment or establishments located within the  
11 space opportunity zone by at least per cent  
12 annually.

13 (c) After designation as a space opportunity zone, each  
14 qualified business in the zone shall submit annually to the  
15 department an approved form supplied by the department that  
16 provides the information necessary for the department to  
17 determine if the space business qualifies as a qualified  
18 business. The approved form shall be submitted by each business  
19 to the governing body of the county in which the space  
20 opportunity zone is located, then forwarded to the department by  
21 the governing body of the county.



1 (d) The form referred to in subsection (c) shall be prima  
2 facie evidence of the eligibility of a space business for the  
3 purposes of this section.

4 (e) Any business conducted by a space business outside of  
5 a space opportunity zone shall not be included in the  
6 determination of gross receipts attributable to the active  
7 conduct of a space business under subsection (a)(2).

8 § -9 State business tax credit. (a) The director shall  
9 certify annually to the department of taxation the applicability  
10 of the tax credit provided in this chapter for a qualified  
11 business against any taxes due the State. Except for the  
12 general excise tax, the credit shall be:

- 13 (1) Eighty per cent of the tax due for the first tax year;
- 14 (2) Seventy per cent of the tax due for the second tax  
15 year;
- 16 (3) Sixty per cent of the tax due for the third year;
- 17 (4) Fifty per cent of the tax due the fourth year;
- 18 (5) Forty per cent of the tax due the fifth year;
- 19 (6) Thirty per cent of the tax due the sixth year; and
- 20 (7) Twenty per cent of the tax due the seventh year.

21 Any tax credit not usable shall not be applied to future tax  
22 years.



1           (b) When a partnership is eligible for a tax credit under  
2 this section, each partner shall be eligible for the tax credit  
3 provided for in this section on the partner's income tax return  
4 in proportion to the amount of income received by the partner  
5 from the partnership. Any qualified business having taxable  
6 income from the active conduct of a space business, both within  
7 and without the space opportunity zone, shall allocate and  
8 apportion its taxable income attributable to that production.  
9 Tax credits provided for in this section shall only apply to  
10 taxable income of a qualified business attributable to the  
11 active conduct of a space business within the space opportunity  
12 zone.

13           (c) In addition to any tax credit authorized under this  
14 section, any qualified business shall be entitled to a tax  
15 credit against any taxes due the State in an amount equal to a  
16 percentage of unemployment taxes paid. The amount of the credit  
17 shall be equal to:

- 18           (1) Eighty per cent of the unemployment taxes paid during  
19               the first year;
- 20           (2) Seventy per cent of the taxes paid during the second  
21               year;



1           (3) Sixty per cent of the taxes paid during the third  
2           year;

3           (4) Fifty per cent of the taxes paid during the fourth  
4           year;

5           (5) Forty per cent of the taxes paid during the fifth  
6           year;

7           (6) Thirty per cent of the taxes paid during the sixth  
8           year; and

9           (7) Twenty per cent of the taxes paid during the seventh  
10          year.

11          (d) Tax credits provided for in subsection (c) shall only  
12 apply to the unemployment tax paid on employees employed at the  
13 qualified business' establishment or establishments located  
14 within the space opportunity zone. Any tax credit not usable  
15 shall not be applied to future tax years.

16          §   -10   **State general excise and use tax exemptions.** The  
17 director shall certify annually to the department of taxation  
18 that any qualified business is exempt from the payment of  
19 general excise taxes on the gross proceeds from the conduct of a  
20 space business within a space opportunity zone. The director  
21 shall also certify annually to the department of taxation that  
22 any qualified business is exempt from the use tax for purchases



1 by the qualified business. The gross proceeds received by a  
2 contractor licensed under chapter 444 shall be exempt from the  
3 general excise tax for construction within a space opportunity  
4 zone performed for a qualified business within a space  
5 opportunity zone. The exemption shall extend for a period not  
6 to exceed seven years.

7       §   **-11 Local incentives.** A county may propose local  
8 incentives to be made available in a space opportunity zone,  
9 including:

- 10       (1) Reduction of permit fees;
  - 11       (2) Reduction of user fees;
  - 12       (3) Reduction of real property taxes; and
  - 13       (4) Regulatory flexibility, including, but not limited to:
    - 14           (A) Special zoning districts;
    - 15           (B) Permit process reform;
    - 16           (C) Exemptions from local ordinances; and
    - 17           (D) Other public incentives,
- 18       which shall be binding upon the locality upon  
19       designation of the space opportunity zone.

20       §   **-12 Termination of space opportunity zone.** Upon  
21 designation of an area as a space opportunity zone, the  
22 proposals for regulatory flexibility, tax incentives, and other



1 public incentives specified in this chapter shall be binding  
2 upon the county governing body to the extent and for the period  
3 of time specified by the director pursuant to section -3. If  
4 the county governing body is unable or unwilling to provide any  
5 of the incentives set forth in section -11 or other  
6 incentives acceptable to the director, and the director has not  
7 adopted rules pursuant to section -6 that supersede  
8 inconsistent ordinances and rules relating to the use, zoning,  
9 planning, and development of land and construction in a space  
10 opportunity zone, then the space opportunity zone shall  
11 terminate. Qualified businesses located in the space  
12 opportunity zone shall be eligible to receive the state tax  
13 incentives provided by this chapter even though the zone  
14 designation has terminated. No space business may become a  
15 qualified business after the date of zone termination."

16 SECTION 3. There is appropriated out of the general  
17 revenues of the State of Hawaii the sum of \$ , or so much  
18 thereof as may be necessary for fiscal year 2007-2008, and the  
19 same sum, or so much thereof as may be necessary for fiscal year  
20 2008-2009, for the department of business, economic development,  
21 and tourism, to implement chapter , including the designation



1 of space opportunity zones and performing required environmental  
2 impact statements.

3 The sums appropriated shall be expended by the department  
4 of business, economic development, and tourism for the purposes  
5 of this Act.

6 SECTION 4. This Act does not affect rights and duties that  
7 matured, penalties that were incurred, and proceedings that were  
8 begun, before its effective date.

9 SECTION 5. This Act shall take effect upon approval except  
10 that section 3 shall take effect on July 1, 2007.

11

INTRODUCED BY:

*[Signature]*  
*[Signature]*  
*[Signature]*  
*[Signature]*





**Report Title:**

Space Opportunity Zones

**Description:**

Requires director of business, economic development, and tourism, in consultation with advisory committee, to designate space opportunity zones, number of zones, and period of zones. Requires department of business, economic development, and tourism to perform required environmental impact statements for zones and expedite issuance of necessary county permits.

