

House District(s) Statewide
Senate District(s) Statewide

THE TWENTY-NINTH LEGISLATURE
APPLICATION FOR GRANTS
CHAPTER 42F, HAWAII REVISED STATUTES

Log No: _____
For Legislature's Use Only

Type of Grant Request:

- GRANT REQUEST – OPERATING GRANT REQUEST – CAPITAL

"Grant" means an award of state funds by the legislature, by an appropriation to a specified recipient, to support the activities of the recipient and permit the community to benefit from those activities.

"Recipient" means any organization or person receiving a grant.

STATE DEPARTMENT OR AGENCY RELATED TO THIS REQUEST (LEAVE BLANK IF UNKNOWN): _____
STATE PROGRAM I.D. NO. (LEAVE BLANK IF UNKNOWN): _____

1. APPLICANT INFORMATION:
Legal Name of Requesting Organization or Individual:
ISIS Hawaii

Dba: HI FusionED

Street Address:

Mailing Address: PO Box 10653, Honolulu, HI 96816

2. CONTACT PERSON FOR MATTERS INVOLVING THIS APPLICATION:
Name ERIN HORNER
Title Program Director
Phone # (808) 389-0077
Fax # _____
E-mail enhorner@gmail.com

3. TYPE OF BUSINESS ENTITY:
 NON PROFIT CORPORATION INCORPORATED IN HAWAII
 FOR PROFIT CORPORATION INCORPORATED IN HAWAII
 LIMITED LIABILITY COMPANY
 SOLE PROPRIETORSHIP/INDIVIDUAL
 OTHER

6. DESCRIPTIVE TITLE OF APPLICANT'S REQUEST:
SUPPORT FOR STEM EDUCATION BY PLANNING, COORDINATING, CONDUCTING THE ROBOTX 2018 MARITIME CHALLENGE IN HONOLULU, HAWAII WHICH INCLUDE OUTREACH TO STATEWIDE AND INTERNATIONAL SCHOOLS, COLLEGES AND STUDENT ROBOTIC GROUPS

4. FEDERAL TAX ID #: _____
5. STATE TAX ID #: _____

7. AMOUNT OF STATE FUNDS REQUESTED:
FISCAL YEAR 2019: \$ 449,000

8. STATUS OF SERVICE DESCRIBED IN THIS REQUEST:
 NEW SERVICE (PRESENTLY DOES NOT EXIST)
 EXISTING SERVICE (PRESENTLY IN OPERATION)

SPECIFY THE AMOUNT BY SOURCES OF FUNDS AVAILABLE AT THE TIME OF THIS REQUEST:
STATE \$ 449,000
FEDERAL \$ 250,000
COUNTY \$ _____
PRIVATE/OTHER \$ _____

TYPE AND TITLE OF MEMBER RESPONSIBLE FOR: _____

Erin Horner, Program Dir.
NAME & TITLE

1-19-18
DATE SIGNED

JAN 19 2018 JRH
2:11 PM

Application for Grants

Please check the box when item/section has been completed. If any item is not applicable to the request, the applicant should enter "not applicable".

I. Background and Summary

This section shall clearly and concisely summarize and highlight the contents of the request in such a way as to provide the State Legislature with a broad understanding of the request. Please include the following:

1. A brief description of the applicant's background;
 Founded in 2002, HI FusionED's mission is to empower students to reach their potential through personal development, higher education and career exploration. isisHawaii has received federal and state funding to "excite students about science- and math-based fields through programs and activities, developed in partnership with local professionals and educators.

2. The goals and objectives related to the request;
 HI FusionED is collaborating with the Association for Unmanned Vehicle Systems International Foundation (AUVSI Foundation). The AUVSI foundation is a 501(c)(3) charitable organization with the purpose of sponsoring, promoting and conducting charitable, educational and scientific activities in the areas of unmanned vehicle systems technology. The AUVSI Foundation has been involved in robotic competitions since 1991.

In May of 2012, AUVSI Foundation and the Office of the Naval Research expanded the Autonomous Service Vehicle (ASV) competition to a global scale and created the "Maritime RobotX Challenge" with the following objectives:

- 1) Foster student interest in robotics and autonomous systems operating in the maritime domain.
- 2) Collaborate on innovative autonomy approaches with partner nations.

The Maritime RobotX Challenge is an international team competition uniquely designed to evolve into a multi-platform competition to include maritime, aerial and submersible tasks to broaden students' exposure to robotics applications and technologies. The initial competition consisted of a few number of participants representing the Pacific Rim countries, specifically the United States, Singapore, Australia, S. Korea and Japan and was held in Singapore in 2014. In 2016, the Maritime RobotX Challenge was held in Honolulu, HI and was attended by teams from the United States (and Hawaii), Singapore, Australia, New Zealand, S. Korea and Japan. The teams consisted of students at any academic level (high school, undergraduate, graduate, and doctorate programs) and comprised of multiple disciplines from multiple schools, colleges and universities.

3. ***The public purpose and need to be served;***
 The 2nd Maritime RobotX Challenge was held in Hawaii in December of 2016. The 3rd Maritime RobotX Challenge will again be held in December 2018 in Honolulu, Hawaii. In 2018, it is expected that the Challenge will continue to gain interest from other countries such as China and Taiwan. Through the Challenge it will be indisputable that Hawaii ocean environment is an ideal setting for technical development of unmanned marine vehicles. In addition, the Challenge will continue to expose science and technology students into autonomous vehicle technology that could open opportunity for them for internship into the Office of the Naval Research and the maritime industry. The Challenge could also pave the way to a potential job opportunity not only to the maritime industry but to the robotics industry as well.

One of the goals of the Challenge is also to motivate and interest local K-12 students in looking into continuing education related to robotics.

4. ***Describe the target population to be served; and***
 The target population includes local K-12 students as we are not only hosting the 2018 Maritime RobotX Challenge but will showcase our Remotely Operated Vehicle called SeaPerch Kit and the underwater autonomous vehicle called SeaGlide. Our outreach for this Challenge will include Hawaii Society for Technology in Education—a local supporter of robotics competitions and conferences, STEM educators and school robotic clubs.
5. ***Describe the geographic coverage.***
 Pacific Rim, State of Hawaii and the city of Honolulu.
- The 2018 Maritime RobotX Challenge will be hosted by Hawaii and will be open to teams of students from countries around the Pacific Rim including Taiwan.
 - Outreach and invitations will be disseminated to students of all levels, teachers and public to observe the Challenge and the demonstration sessions for the SeaPerch and SeaGlide programs.

II. Service Summary and Outcomes

The Service Summary shall include a detailed discussion of the applicant's approach to the request. The applicant shall clearly and concisely specify the results, outcomes, and measures of effectiveness from this request. The applicant shall:

1. ***Describe the scope of work, tasks and responsibilities;***
 2018 Maritime RobotX Challenge consists of the following major tasks and sub-tasks:
- a. Designing the challenges for the competition:
 - Courses including: the competition area, the practice area, and course boundaries
 - Vehicle set-up and service area for teams
 - Obstacles/Avoidance
 - Recognition
 - Common design requirements for competitors

- Common material and equipment requirements for competitors
- There will be land-based and in-water tasks, with evaluation and judging provided by international panel of subject matter experts. Tasks rules will be established and Judges will be recruited.
- b. Publicizing the event including: local, national and international press, media PSAs, social media and the RobotX website.
- c. Procuring and building the objects and elements of the event including: Course marks, obstacle buoys. Anchoring materials, sensor recognition schemes, etc.
- d. Securing local vendors to provide the logistical item that are required such as:
 - Support docks, floats and other on-water equipment.
 - Tents, tables, audio/visual equipment.
 - Storage
 - Hoists
- e. Working with local Hawaii firms for ancillary capabilities, i.e. hotels, catering, transportation, etc.
- f. Working with students on shipping their vehicles.
- g. Organizing and managing the Challenge over a one-week period including: actual on-water mission, auxiliary learning venue and sessions, logistic support, judging, website maintenance and updates, public relations support, opening and closing ceremonies support.
- h. Demobilizing from the Challenge including: competition site breakdown, vehicle breakdown and packing, shipping/storage of vehicles and equipment, and event review and lessons-learned session with the Challenge leadership team.

2. **J** *Provide a projected annual timeline for accomplishing the results or outcomes of the service;*

Planning for 2018 Maritime RobotX Challenge

- 1st Quarter 2018
 - 1) Initial planning, prospective site visits
 - 2) Finalization of tasks and rules; Initial PR and release; Promotion and outreach for student teams' participation
- 2nd Quarter 2018
 - 1) Securing local support and vendors
 - 2) Fabrication and shipping of WAM-Vs (boats) to new teams
 - 3) Continued planning with local support
- 3rd Quarter 2018
 - 1) Continued refinement and planning
 - 2) Consultation and support of teams
 - 3) Increasing PR efforts in advance of the Challenge
- 4th Quarter 2018
 - 1) Heightened PR and local publicity
 - 2) Finalization of outstanding support issues
 - 3) Final site and course issues resolved
 - 4) Ongoing post event publicity, demobilization and review/lesson learned

3. ***Describe its quality assurance and evaluation plans for the request. Specify how the applicant plans to monitor, evaluate, and improve their results; and***

Each step of the process will be closely monitored by an Oversight Committee consisting of representative from the AUVSI Foundation, the US Office of Naval Research, local engineering/marine companies, and (as available) State of Hawaii personnel from the University of Hawaii and/or Department of Education. We will develop a detailed timeline and tasks matrix with regular status meetings and calls to ensure timeliness and progress. Significant experience was obtained from the 2014 and 2016 Challenge and will be vital in delivering a quality Challenge with valuable educational outcomes.

4. ***List the measure(s) of effectiveness that will be reported to the State agency through which grant funds are appropriated (the expending agency). The measure(s) will provide a standard and objective way for the State to assess the program's achievement or accomplishment. Please note that if the level of appropriation differs from the amount included in this application that the measure(s) of effectiveness will need to be updated and transmitted to the expending agency.***

The measures of effectiveness and accomplishment that will be reported to the expending agency or other as necessary will include:

- Teams signed up with names, country, university affiliation
- Progress by teams in planning, readiness, schedule compliance
- Progress by Competition Committee including status of all tasks listed in II.1. above.
- Successful completion of the 2018 Maritime RobotX Challenge.
- Publication of each team journal paper at the RobotX website.
- Feedback/Lessons Learned reports from participating teams at the conclusion of the Challenge.
- Feedback of students, parents, teachers who are involved/participated from State of Hawaii K-12 schools, the University of Hawaii and other educational institutions.

III. Financial

Budget

1. The applicant shall submit a budget utilizing the enclosed budget forms as applicable, to detail the cost of the request.

Please see attached completed budget forms following this section

- a. Budget request by source of funds ([Link](#))
- b. Personnel salaries and wages ([Link](#))
- c. Equipment and motor vehicles ([Link](#))
- d. Capital project details ([Link](#))
- e. Government contracts, grants, and grants in aid ([Link](#))

2. The applicant shall provide its anticipated quarterly funding requests for the fiscal year 2019.

Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total Grant
\$67,350	\$67,350	\$68,350	\$246,950	\$449,000

3. The applicant shall provide a listing of all other sources of funding that they are seeking for fiscal year 2019.
Northrop Grumman, Mathworks, US Office of Naval Research
4. The applicant shall provide a listing of all state and federal tax credits it has been granted within the prior three years. Additionally, the applicant shall provide a listing of all state and federal tax credits they have applied for or anticipate applying for pertaining to any capital project, if applicable.
Not Applicable
5. The applicant shall provide a listing of all federal, state, and county government contracts, grants, and grants in aid it has been granted within the prior three years and will be receiving for fiscal year 2019 for program funding.
US Office of Naval Research
6. The applicant shall provide the balance of its unrestricted current assets as of December 31, 2017.
\$228,964

IV. Experience and Capability

1. **Necessary Skills and Experience**

The applicant shall demonstrate that it has the necessary skills, abilities, knowledge of, and experience relating to the request. State your experience and appropriateness for providing the service proposed in this application. The applicant shall also provide a listing of verifiable experience of related projects or contracts for the most recent three years that are pertinent to the request.

HI FusionED has been dedicated to empowering students, with a particular focus on science- and math-based education, including involvement in robotics competition across the state and has led the coordination of the Robofest competition. They have also been involved in introducing robotics programs to schools, including an underwater robotics project (SeaPerch) in 2 schools.

Collaborators at AUVSI has been involved in robotics competitions since 1991 with a primary mission to develop future generations of scientists and engineers focused on unmanned systems and to facilitate interaction between the academic community, government and industry. They have been involved in the following robotics competitions:

- Autonomous Surface Vehicle (RoboBoat Competition) – since 2008

- Autonomous Underwater Vehicle (RoboSub Competition) – since 1998
- National SeaPerch Challenge – since 2012
- Maritime RobotX Challenge – since 2012

2. **Facilities**

The applicant shall provide a description of its facilities and demonstrate its adequacy in relation to the request. If facilities are not presently available, describe plans to secure facilities.

Facilities have not yet been finalized but the applicant will leverage contacts and facilities from previous robotics competitions, science fairs, and past projects in related areas to secure appropriate facilities.

V. Personnel: Project Organization and Staffing

1. **Proposed Staffing, Staff Qualifications, Supervision and Training**

The applicant shall describe the proposed staffing pattern and proposed service capacity appropriate for the viability of the request. The applicant shall provide the qualifications and experience of personnel for the request and shall describe its ability to supervise, train and provide administrative direction relative to the request.

The 2018 Maritime RobotX Challenge will be supported by staff that are experienced in planning, directing and managing autonomous vehicle competitions.

- Executive Director (Primary Investigator) – overall in-charge of the planning, directing and managing the 2018 RobotX Challenge
- Robotic Program Director – in-charge in the implementation of the Challenge Rules and Regulations
- Program Director – support in the development of judging criteria
- Senior Event Manager – overall in-charge of the Challenge logistics
- Director of Operations – overall in-charge of the fiscal activities of the Challenge

2. **Organization Chart**

The applicant shall illustrate the position of each staff and line of responsibility/supervision. If the request is part of a large, multi-purpose organization, include an organization chart that illustrates the placement of this request.

Please see attached Organization Chart

3. **Compensation**

The applicant shall provide the annual salaries paid by the applicant to the three highest paid officers, directors, or employees of the organization by position.

Executive Director	\$ 155,500
Program Director	\$ 105,060
Robotic Program Director	\$ 100,980

VI. Other

1. **Litigation**

The applicant shall disclose any pending litigation to which they are a party, including the disclosure of any outstanding judgement. If applicable, please explain.

There is no litigation pending with AUVSI Foundation.

2. **Licensure or Accreditation**

The applicant shall specify any special qualifications, including but not limited to licensure or accreditation that the applicant possesses relevant to this request.

3. **Private Educational Institutions**

The applicant shall specify whether the grant will be used to support or benefit a sectarian or non-sectarian private educational institution. Please see Article X, Section 1, of the State Constitution for the relevance of this question.

The grant will not be used to support any private educational institutions.

4. **Future Sustainability Plan**

The applicant shall provide a plan for sustaining after fiscal year 2018-19 the activity funded by the grant if the grant of this application is:

- (a) Received by the applicant for fiscal year 2018-19, but
- (b) Not received by the applicant thereafter.

After the 2018 Maritime RobotX Challenge in Hawaii, the Challenge will be held and hosted by another country. The funding to partially support the next effort will be requested from that country or state's granting authority. As part of the next and future Challenges, AUVSI Foundation will continue to solicit financial support from the State of Hawaii for its outreach to

Hawaii Schools, college robotics clubs and others who participate in RobotX 2016 and 2018.

5. **Certificate of Good Standing (If the Applicant is an Organization)**

If the applicant is an organization, the applicant shall submit one (1) copy of a certificate of good standing from the Director of Commerce and Consumer Affairs that is dated no earlier than December 1, 2017.

Please see attached Certification of Good Standing.

6. **Declaration Statement**

The applicant shall submit a declaration statement affirming its compliance with Section 42F-103, Hawaii Revised Statutes. ([Link](#))

Please see attached Declaration Statement

7. **Public Purpose**

The applicant shall specify whether the grant will be used for a public purpose pursuant to Section 42F-102, Hawaii Revised Statutes. ([Link](#))

Although the grant is not directly public purpose, the outcome not only in educational value but in commerce will benefit some of the public.

BUDGET REQUEST BY SOURCE OF FUNDS

Period: July 1, 2018 to June 30, 2019

Applicant: AUVSI Foundation

BUDGET CATEGORIES	Total State Funds Requested (a)	Total Federal Funds Requested (b)	Total County Funds Requested (c)	Total Private/Other Funds Requested (d)
A. PERSONNEL COST				
1. Salaries	93,654	134,759	0	0
2. Payroll Taxes & Assessments	7,491	10,781	0	0
3. Fringe Benefits	13,580	19,540	0	0
TOTAL PERSONNEL COST	114,725	165,080		
B. OTHER CURRENT EXPENSES				
1. Professional Fees (Technical & Logistics)	334,275	126,000	0	0
2. Travel Expenses	0	241,065	0	0
3. Insurance	0	10,000	0	0
4. Office Supplies	0	10,000	0	0
5. Shipping of Equipment/Logistical Supplies	0	60,300	0	0
6. Equipment	0	221,000	0	0
7. Technology Expenses	0	100,000	0	0
8. Food and Beverages	0	38,000	0	50,000
9. On-site logistical expenses	0	379,374	0	50,000
10. In-direct expenses	0	110,120	0	20,000
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
TOTAL OTHER CURRENT EXPENSES	334,275	1,295,859	0	120,000
C. EQUIPMENT PURCHASES	0	0	0	0
D. MOTOR VEHICLE PURCHASES	0	0	0	0
E. CAPITAL				
TOTAL (A+B+C+D+E)	449,000	1,460,939		120,000
SOURCES OF FUNDING		Budget Prepared By:		
(a) Total State Funds Requested		Norma Fioriza	571-482-3202	
(b) Total Federal Funds Requested		Name (Please type or print)	Phone	
(c) Total County Funds Requested			Date	
(d) Total Private/Other Funds Requested			1-11-18	
TOTAL BUDGET		Name and Title (Please type or print)		

BUDGET JUSTIFICATION - PERSONNEL SALARIES AND WAGES

Period: July 1, 2018 to June 30, 2019

Applicant: AUVSI FOUNDATION

POSITION TITLE	FULL TIME EQUIVALENT	ANNUAL SALARY A	% OF TIME ALLOCATED TO GRANT REQUEST B	TOTAL STATE FUNDS REQUESTED (A x B)
Executive Director (Primary Investigator)	100% FTE	\$155,550.00	10.00%	\$ 15,555.00
Robotic Program Director	100% FTE	\$100,980.00	20.00%	\$ 20,196.00
Program Director	100% FTE	\$105,060.00	10.00%	\$ 10,506.00
Senior Event & Logistic Manager	100% FTE	\$53,040.00	25.00%	\$ 13,260.00
Director of Operations	100% FTE	\$97,381.00	25.00%	\$ 24,345.25
Communications Manager	100% FTE	\$48,960.00	20.00%	\$ 9,792.00
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
TOTAL:				93,654.25
JUSTIFICATION/COMMENTS:				

BUDGET JUSTIFICATION - EQUIPMENT AND MOTOR VEHICLES

Period: July 1, 2018 to June 30, 2019

Applicant: AUVSI Foundation

DESCRIPTION EQUIPMENT	NO. OF ITEMS	COST PER ITEM	TOTAL COST	TOTAL BUDGETED
Not Applicable			\$ -	
			\$ -	
			\$ -	
			\$ -	
			\$ -	
TOTAL:			\$ -	
JUSTIFICATION/COMMENTS:				

DESCRIPTION OF MOTOR VEHICLE	NO. OF VEHICLES	COST PER VEHICLE	TOTAL COST	TOTAL BUDGETED
Not Applicable			\$ -	
			\$ -	
			\$ -	
			\$ -	
			\$ -	
TOTAL:			\$ -	
JUSTIFICATION/COMMENTS:				

BUDGET JUSTIFICATION - CAPITAL PROJECT DETAILS

Period: July 1, 2018 to June 30, 2019

Applicant: AUVSI Foundation

FUNDING AMOUNT REQUESTED						
TOTAL PROJECT COST	ALL SOURCES OF FUNDS RECEIVED IN PRIOR YEARS		STATE FUNDS REQUESTED	OTHER SOURCES OF FUNDS REQUESTED	FUNDING REQUIRED IN SUCCEEDING YEARS	
	FY: 2016-2017	FY: 2017-2018	FY:2018-2019	FY:2018-2019	FY:2019-2020	FY:2020-2021
PLANS						
LAND ACQUISITION						
DESIGN						
CONSTRUCTION						
EQUIPMENT						
TOTAL:	0	0	0	0	0	0
JUSTIFICATION/COMMENTS:						

GOVERNMENT CONTRACTS, GRANTS, AND / OR GRANTS IN AID

Applicant: AUVSI Foundation

Contracts Total: 1,000,000

	CONTRACT DESCRIPTION	EFFECTIVE DATES	AGENCY	GOVERNMENT ENTITY (U.S. / State / Haw / Hon / Kau / Mau)	CONTRACT VALUE
1	Maritime RobotX Challenge	1/1/2018-12/31/2018	ONR	US	1,000,000
2					
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**DECLARATION STATEMENT OF
APPLICANTS FOR GRANTS PURSUANT TO
CHAPTER 42F, HAWAII REVISIED STATUTES**

The undersigned authorized representative of the applicant certifies the following:

- 1) The applicant meets and will comply with all of the following standards for the award of grants pursuant to Section 42F-103, Hawai'i Revised Statutes:
 - a) Is licensed or accredited, in accordance with federal, state, or county statutes, rules, or ordinances, to conduct the activities or provide the services for which a grant is awarded;
 - b) Complies with all applicable federal and state laws prohibiting discrimination against any person on the basis of race, color, national origin, religion, creed, sex, age, sexual orientation, or disability;
 - c) Agrees not to use state funds for entertainment or lobbying activities; and
 - d) Allows the state agency to which funds for the grant were appropriated for expenditure, legislative committees and their staff, and the auditor full access to their records, reports, files, and other related documents and information for purposes of monitoring, measuring the effectiveness, and ensuring the proper expenditure of the grant.

- 2) If the applicant is an organization, the applicant meets the following requirements pursuant to Section 42F-103, Hawai'i Revised Statutes:
 - a) Is incorporated under the laws of the State; and
 - b) Has bylaws or policies that describe the manner in which the activities or services for which a grant is awarded shall be conducted or provided.

- 3) If the applicant is a non-profit organization, it meets the following requirements pursuant to Section 42F-103, Hawai'i Revised Statutes:
 - a) Is determined and designated to be a non-profit organization by the Internal Revenue Service; and
 - b) Has a governing board whose members have no material conflict of interest and serve without compensation.

Pursuant to Section 42F-103, Hawai'i Revised Statutes, for grants used for the acquisition of land, when the organization discontinues the activities or services on the land acquired for which the grant was awarded and disposes of the land in fee simple or by lease, the organization shall negotiate with the expending agency for a lump sum or installment repayment to the State of the amount of the grant used for the acquisition of the land.

Further, the undersigned authorized representative certifies that this statement is true and correct to the best of the applicant's knowledge.

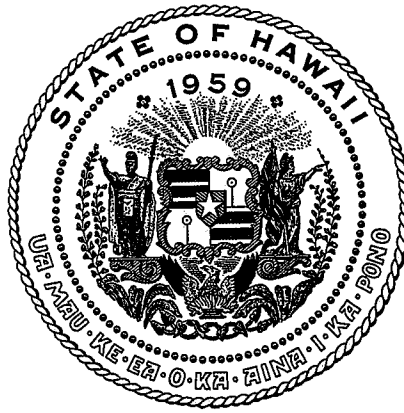
HI FusionED

( Organization)

1-19-18
(Date)

Erin Horner
(Typed Name)

Program Director
(Title)



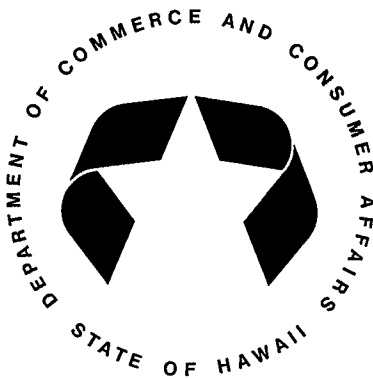
Department of Commerce and Consumer Affairs

CERTIFICATE OF GOOD STANDING

I, the undersigned Director of Commerce and Consumer Affairs of the State of Hawaii, do hereby certify that

ISIS HAWAII

was incorporated under the laws of Hawaii on 11/30/2002 ; that it is an existing nonprofit corporation; and that, as far as the records of this Department reveal, has complied with all of the provisions of the Hawaii Nonprofit Corporations Act, regulating domestic nonprofit corporations.



IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the Department of Commerce and Consumer Affairs, at Honolulu, Hawaii.

Dated: January 19, 2018

Director of Commerce and Consumer Affairs