

Seaside Tsunami Amateur Radio Society

The WA7VE



www.freewebs.com/wa7ve_stars 320 7th Avenue Seaside, OR. 97138 503-717-3484

March 2011
Volume 4
Issue 3

General License Class

April 15-Fri.-5:30 to 9:30
April 16, 17—9:00 to 4:00
At the Clatsop Community.
College Seaside Campus.
Contact ab7ho@charter.net to
hold a spot in the class.

Hams & Eggs in Seaside

meets at 8:00 AM every
Thursday at McKeown's
restaurant. The first Thur. of
each month we will meet at a
different restaurant. The loca-
tion will be announced the
night before on the STARS
Net.

- **The ARES net operates** on the WA7VE repeater at 145.490 Mhz. at 7:00 PM Wednesday evening.
- **The monthly STARS Meeting** is scheduled for Sat. Mar. 12th @ 5pm at the Clatsop Community College Seaside Campus at 1455 N. Roosevelt.

STARS Officers & Board of Directors

Trustee	Hal Denison
President	Robin Knoll
Vice-President	Pat Haggard
Secretary	Pat Tanner
Treasurer	Vianne Patterson
ARES-EC	Jeff Holwedge

Digital Training in March

At our regular March members meeting we will have a demonstration of the assembly, testing and operation of a complete digital station at the meeting. If you want to know how to set up your own station, this will be a good time to observe the experts at work.

T-Shirt, Sweatshirt & Polo's

At the March meeting we will be taking orders and money for the clothing order. These are being sold at cost by the club. After this order is placed the imprinted clothing will still be available but the prices will be higher. Prices start at \$8.00 for the t-shirts with the STARS logo.

KMUN Pledge Drive

Terry Wilson (KB7SI) advised us of the annual KMUN (91.9 on your FM dial) pledge drive. It will run from March 4th through the 14th. On March 9th from 0930 to 1030 there will be a number of area ham operators discussing various aspects of ham radio. There will also be a call-in time for pledges. Please help keep KMUN on the air for another year by giving whatever you can afford. Terry asked the club to consider making a donation to KMUN. The donation will be discussed at the March meeting.

Thank You United Rental!!!

United Rental of Seaside will be donating the use of a lift to install our antennas for Field Day. Go by and spend some money. They are great folks with a great selection of tools.



Field Day Planning Begins

ARRL Field Day – June 25-26th 2011

It will be held at Northgate Park in Seaside. That is across from the Kiwi Glass shop. We had a great bunch of folks there last year and this year should be even better. President Knoll created several committees to work on various aspects of Field Day. They will begin meeting soon. Check your email for the date, time and place. At the February meeting we had several volunteers for the Antenna, Food, Logistics, Publicity and Equipment committee's. If you have an interest or special expertise in helping any of these committee's feel free to contact Pat Haggard at 503-717-3484 or KE7DOX@arrl.net. He can put you in touch with the appropriate committee so we can all divide up the work and spread the load.

Brother, Can You Spare a Dime?

If you have a rich uncle that needs a tax break, tell him STARS is now a 501(c)3 corporation and all donations are tax deductible. If you have an extra dime or dollar, please feel free to donate it to the Equipment Fund so we can buy more toys for us all to share and "ham it up". We also pass around a voluntary donation jar at Hams and Eggs every Thursday so we can collect a few shekels to buy the club more equipment.

Meet Our Newest Member



The latest addition to the ever growing STARS circle of friends is Robert Burk (KF7NWT). He received his license grant on 2/24/2011 after testing at our February meeting. Robert is 40 years old and lives in Hammond. His wife's name is Janice. He has two wonderful sons, Robbie age 10 and Tyler age 6. Robert has a 17 year background in law enforcement and currently is employed as an EMT for Medix Ambulance. His hobbies are hunting, fishing, survival skills, self reliance, scuba diving, and now amateur radio. He states he is very excited to learn new things about ham radio and he looks forward to the upcoming Field Day and SEAPAC events. Let's all give him a big welcome!

ARES Check-Ins for February

Last month we had four different net controls and 100 check ins. Yes, you read that right. 100 check ins. Great job team!

Help us Grow The Club

It is our goal to reach a membership of 100 this year. We cannot do it without the help of all members. Please contact a ham that you know and ask them to join our club. We are building a great circle of friends as well as learning more about amateur radio and how to provide more versatile and effective communications during emergencies.

WA7VE Newsletter Corrections

Just in case any of you still believe I am perfect, last month I failed to change the name of our Treasurer to Vianne Patterson in the newsletter. I also referred the Negative battery terminal as the Anode. Obviously it is not. Tongue lashings are not required. As punishment for this offense President Knoll docked my salary by 50% for an entire month. Ouch!

SEAPAC

As you are aware STARS will not receive any of the earnings from the SEAPAC Spaghetti Feed this year as we have for the past few years. The club decided to raffle off a Kenwood TH-DF6A (a tri-band handheld) with all the goodies as a fund raiser for this year. We will have a table at SEAPAC. If you would like to sell tickets and/or work at the STARS table during SEAPAC please contact the club.

STARS Contact Person

If you need to contact the club you may call, snail mail or email.

Pat Haggard
320 7th Avenue
Seaside, OR. 97138
503-717-3484

Please leave a message if I do not pickup the phone. I will return your call as soon as possible. You may also email me at KE7DOX@arrl.net

February STARS Meeting

20 members showed up on a very cold, wet and windy Saturday for our February membership meeting at Clatsop College's Seaside campus. We added a flag salute to the opening of the meeting. I liked it! Deb Stirling was thanked for her \$35.00 donation to the club. The club approved the purchase of an MFK Antenna Analyzer for the use of club members.

Nuggets For Newbies and Ask An Elmer

...have been combined this month for the first of a series of articles on RF radiation safety. In this month's section we will review ionizing vs. non-ionizing radiation.

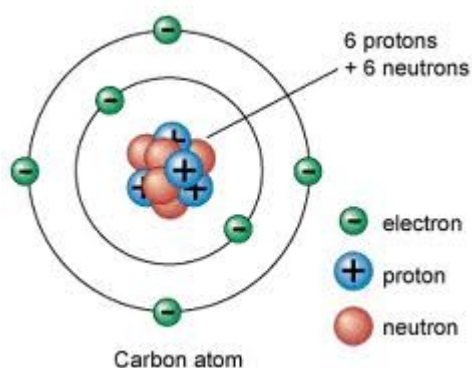
What is the difference between them? How do they affect the human body?

The science behind ionizing vs. non-ionizing radiation is something we all need to understand because it can be a health hazard. We live in an ocean of radiation. It is all around us, everywhere and all the time. The one thing that can change a healthy respect for all types radiation to fear is the unknown. Most humans cannot determine if they are being "radiated". For example, you would not know that nearby radio station was broadcasting unless you had a radio turned to that frequency. You also know that you do not want to live near Chernobyl or the Hanford nuclear facility in Washington state.

Radiation can be in the form of particles or in the form of waves. It can be natural or man made. It can be said that all radiation has health consequences. But not all forms of radiation have the same efficiency for causing biological damage. Watt for watt, volt for volt and amp for amp ionizing radiation is the type of radiation that should cause the most concern. Even without producing any heat in our bodies ionizing radiation can change your body tissue (and not for the better). Ionizing radiation has the ability to create charged ions by displacing electrons in the atoms that make up your body. Are your eyes rolling back in your head yet? Okay, let me break it down a bit more for you.

Whenever radiation of any type is absorbed by the body you will have excitation and depending on the wavelength of the radiation you may also have ionization. So you ask, what is the difference?

Excitation happens when radiation excites the motion of atoms or molecules in the body and it causes an electron to move from its orbit to a higher energy orbit farther out from the nucleus. Whew! The picture will come next.



Ionization happens when the radiation striking your body carries enough energy to remove one or more electrons completely from an atom or molecule.

The dividing line between non-ionizing and ionizing radiation within the electromagnetic radiation spectrum falls within the ultra-violet band. Do you remember the label on your bottle of sun block? It talks about UVa and UVb. High-end UV radiation is almost as dangerous as X-Ray radiation. Take a look at the chart on the next page.

PARTICLE RADIATION

Charged particles *ionizing* radiation (Extremely dangerous)

ELECTROMAGNETIC RADIATION

Cosmic rays *ionizing* radiation
Y rays *ionizing* radiation
X-Rays *ionizing* radiation
Ultraviolet (Becomes ionizing at 1216 kJ/mol)
Visible light **non-ionizing** radiation
Infrared light **non-ionizing** radiation
Microwave radiation **non-ionizing** radiation
VLF, HF, VHF and UHF radiation **non- ionizing** radiation

Just because most ham radio bands are in the non-ionizing region of radiation does not mean excessive exposure is safe. It does require *a lot* of non-ionizing radiation to reach a level that would be considered unsafe to humans.

The excitation effect of non-ionizing radiation can cause heating of the body. If you have ever had a bad sunburn you know that too much heat is not a good thing. Think about your microwave oven. It heats by exciting the water molecules in the food placed within its chamber. The human body is roughly 70-80% water. Remain calm. For a 154 lb human it would require about 1,500,000 joules on non-ionizing radiation to heat the body approximately 43 degrees Fahrenheit and cause death strictly by excitation of water molecules. To demonstrate how much more dangerous *ionizing* radiation is, it would only require about 300 Joules of X-ray radiation to kill a human and only 15 Joules of particle radiation to kill a human. Yup, 15 Joules of ionizing radiation compared to 1,500,000 for non-ionizing radiation.

So you ask what is a joule?

A Joule is the unit of work, or energy applied to the work, done by a force of one Newton when its point of application moves through a distance of one meter in the direction of the force. It is the equivalent one watt-second.

What does the /mol mean after kJ (Kilo Joule) in the above chart?

The **mole** (mol) is the unit of measurement for the amount of a substance or a chemical. It is one of the base units in the International System of Units, and has the unit symbol **mol**.

So now you want to know what about the Newton?

Were you asleep in science class or has it just been a very long time? That is a joke, son.

The Newton is the unit of force, equal to the force that produces an acceleration of one meter per second per second on a mass of one kilogram. A kilogram is equal to 2.2 pounds.

We could talk about RAD's and REM's in high level energy but that is for another discussion at another time and place. We want to talk about ham radio.

Just so you will know, the principal effect of low dose *ionizing* radiation is to cause cancer. These cancers make take up to twenty years to develop. The most susceptible cells are those that are actively dividing. They would be the cells in your reproductive organs, your eyes, skin and the epithelium of your intestinal tract tissue. The least sensitive organs would be your liver, kidney, muscle tissue, brain and your bone marrow.

In the future we will include an article about RF safety specific to the ham bands. That is the subject of next months article. Since we are in the public eye we need to be able to explain and discuss this subject as well as RF safety issues with the non-ham community at large.

Exciting News on Our New Club Equipment

Our brand new MFJ-269 Antenna Analyzer has arrived and is available for loan to members. If you would like a free electronic (PDF) copy of the manual for the device just request a copy from wa7ve@charter.net. This device will assist us as well as troubleshooting feedline or an-purchasing more equipment for STARS have any suggestions regarding what we them to the March membership meeting so wants. If you are unable to attend the meet-tions to wa7ve@charter.net. If you would like contact Hal (WA7FIV).



in designing and testing antenna's tenna problems. We look forward to members to be able to use. If you should acquire next please bring we can prioritize our needs and ing send an email with your sugges-to use the antenna analyzer please

Late Breaking Newsletter Headline

April 7 Hams and Eggs

We will meet at Phannie Phatts dakine restaurant located at 748 1st Avenue in Seaside. I ate their yesterday and the food was fabulous and the prices were very reasonable.

This is it folks. The End (for this month). The end of the line. No mas, no mas.