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Welcome! Saturday, 10 Nov 2012



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**(U) One Fish, Two Fish, My Fish, Your Fish!**

FROM: (U//FOUO) [REDACTED]  
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Run Date: 06/27/2012

(U) The international commercial fishing industry is *big* business and many countries are struggling to protect their maritime resources and exclusive economic zones (EEZ). These EEZs generally extend 200 nautical miles from a country's coastline. As maritime resources are stressed by increased fishing pressures, disputes over fishing rights and violations of EEZ are a growing concern and are increasingly becoming flash points for international incidents.



(TS//SI//REL) The PRC commercial fishing fleets are often involved in EEZ incursions and illegal fishing activities. Just recently Chinese fishing activities in the South China Sea resulted in two separate incidents that escalated to involve the naval forces of the PRC and the Philippines and Indonesia. Monitoring of the locations and activities of foreign fishing fleets is an important mission of the United States Coast Guard, many of our Second Party partners, as well as being an item of concern for the US State Department.

### **Maritime Identification Etiquette (U)**

(S//REL) One key tool to monitoring fishing fleet activity is the use of the international Automatic Identification System (AIS) by many fishing vessels. While mandated for larger vessels, AIS is often used on smaller vessels as well. Among the items of information AIS provides is an automatic position report to all the ships in the area to aid in safe navigation. The AIS system also helps simplify the problems of enforcing fishing regulations and monitoring activity in a nation's EEZ.

(S//REL) Naturally, it wasn't surprising to hear our customers' concerns when a large number of Chinese fishing vessels were observed broadcasting their position 1,000 miles from where they actually were. Not only did this pose a threat to the safety of navigation for ships operating in proximity to these fishing vessels, it also complicated the monitoring of the EEZ for the United States and our Second Party partners.

(S//REL) A combined effort between NSA Colorado and Second Party partners surged on this problem. Early on it was clear that there were two types of problems with the positional data being broadcast by the affected Chinese fishing fleet AIS systems. However, both problems presented our customers and other ships in the vicinity of the PRC fishing vessels with vastly incorrect vessel location, diminishing the value of AIS to aid in safe navigation and in the monitoring of foreign fishing activity near regions of concern.

### **OK, So You Made a Mistake! (U)**

(S//REL) The tracks of those Chinese fishing vessels with the first type of error would appear to "bounce or reflect" off the equator and the international dateline as the ships continued east or south. Eventually, for ships heading to the fishing grounds off the Pacific coast of South America, the AIS tracking would be "reflected" in northern India! The positions of these Chinese fishing vessels it appeared to be "reflected" back into the northeastern global quadrant. This problem was apparently recognized by the PRC authorities and corrections to the AIS on these fishing vessels began to occur in August 2011.

### **The Standard Coordinate System Isn't Good Enough for You? (U)**

(S//REL) The second type of problem was not an error but an intentional "misuse" of the AIS messaging protocol to produce a different (home-grown) coordinate system for use by some PRC fishing vessels. This coordinate system measured longitude to the east from 0 degrees at the prime meridian to 362 degrees. The longitude values displayed a gap, or "skipped" from 180 to 182 degrees. Latitude was measured from the equator at 0 degrees and increased to 90 degrees at the North Pole. Then the latitude values resumed at the South Pole at 92 degrees and reached the southern side of the equator at 182 degrees. The result of these two characteristics is that while the Chinese know where their ships are, the position when they are located outside the northeastern global quadrant posing challenges for customers, sailors, and naval authorities that rely on AIS data to perform their duties.



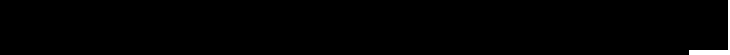
*(S//REL) In the above graphic, the red line at the top marks 91 degrees N latitude skipped by PRC users; the yellow line on the right is 181 degrees longitude, also skipped.*

(S//REL) This problem has been identified on at least 18 fishing vessels and has shown no signs of being corrected. Analytic work continues to ensure that the affected vessels can be identified and processed to provide the true positional information. The underlying reason for why the PRC has opted to use this alternate coordinate system for some of their fishing vessels is still unknown.

(U//FOUO) Comments on this topic, or information to pass on? Send a note to 

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