

AERONAUTICAL CHARTING FORUM
Charting Group
Meeting 14-02 – October 28 - 30, 2014

RECOMMENDATION DOCUMENT

FAA Control # ACF-CG RD 14-02-283

Subject:

The following are paraphrased comments from a Coast Guard Final Decision Safety Message regarding the loss of one of its helicopters and three service members following a wire strike in July 2010.

Background/Discussion:

On the morning of Wednesday, 07 July 10 a Coast Guard MH-60T Jayhawk helicopter was transiting north along the Washington coastline when it struck power transmission lines east of James Island just off the coast of La Push, WA. One crew member sustained non life-threatening injuries while the other three died as a result of impact forces during the mishap sequence. The cost of the destroyed Coast Guard MH-60T aircraft was \$30,180,000; the cost to repair the ground power infrastructure was \$366,346. The mishap causal factors noted that the crew did not identify or see and avoid the charted wire hazard. Following a fatal aircraft accident in 1961 involving a small fixed-wing aircraft, the Coast Guard re-installed these wires along the same course, adding a series of orange aviation warning markers to increase visibility of the hazard.

Recommendations:

U.S. Coast Guard Directed Action from the Final Decision Safety Message: The Vice Commandant of the Coast Guard directed the Assistant Commandant for Capabilities (CG-7) to coordinate with necessary stakeholders to put forth a change recommendation to the FAA to revise and model current U.S. VFR sectionals after Canadian VFR sectionals chart color contrast and hazard symbology.

U.S. Coast Guard Request to the FAA's Charting Group (CG): We request that the group approve updates of US VFR charts to provide more prominent markings of charted obstacle hazards to save lives and preserve property through improved pilot situational awareness and avoidance of charted obstacle hazards.

Comments:

The Canadian VFR sectional's hazard depictions were recommended by Coast Guard aircrews, the Commandant's Mishap Analysis Board (MAB),¹ Mishap Unit Chain of Command,² and the Commandant's Safety Board (CSB)³ for inclusion in US VFR Sectionals to help mitigate future wire strike mishaps.

Submitted by: Mr. Christopher Hill

Organization: U.S. Coast Guard Aviation Safety

Phone: 202-475-5176

E-mail: christopher.b.hill2@uscg.mil

Date: August 22, 2014

¹ The Commandant's Mishap Analysis Board (MAB) is the field investigative team activated following a mishap.

² The mishap unit chain of command comments and endorses the findings and recommendation of the MAB.

³ The Commandant's Safety Board (CSB) is the headquarters board that comprises the Coast Guard's Chief Pilot, Chief Aviation Engineer, Chief Aviation Safety Officer and Chief Flight Surgeon. The CSB adjudicates the MAB report and all chain of command comments and endorsements and prepares the final decision message for Vice Commandant approval and release.

MEETING 14-02

Jim O'Keefe, USCG, briefed the issue. Jim stated that the USCG is asking the FAA to consider revision of the symbology used for transmission lines on the VFR Sectional Charts. The USCG request arises from a helicopter incident in 2010 where a USCG helicopter flew into a power line and three crew members were killed. The USCG acknowledged that pilot error was a major contributing factor to the incident. Additionally, it was also acknowledged that the power lines were correctly charted on the Visual chart at the time of the incident.

The USCG feels that the current symbology for transmission lines used on FAA charts does not stand out enough when compared to that used on Canadian charts and as suggested by ICAO charting standards. Jim [showed examples of both Canadian and FAA depictions of transmission lines](#), commenting that the wavy line design used on Canadian charts appears more prominently than the FAA straight line with T's symbology.

Rick Fecht, AJV-3213, commented that to date, his office has not received any complaints regarding the current FAA transmission line depiction. He added that the transmission lines are on the chart for landmark purposes only. The lines in question were below 200 feet AGL, so would not have met obstruction charting criteria. He noted that on the Canadian chart the larger symbology displaces other features of presumed importance and that the T's used in the Canadian symbology are excluded when in conflict with another charting feature. Rick stated that the current charting practices of putting FAA T-lines on sectional charts are a manual process and that revising the symbology would be an extremely labor and cost intensive endeavor.

Jim responded that for helicopter pilots, transmission lines are more than landmarks, they are flight hazards. Helicopter flight into power lines has led to many fatal accidents.

Valerie Watson, AJV-344, commented that, considering the accident report cited pilot error and that the incident was not attributed in any way to a charting issue, her opinion is that a case would be difficult to support for manually revising the transmission lines in today's financial climate where resources are severely limited. She did suggest that once the Visual charts are fully automated, such a change could be considered.

Brad Rush, AJV-344, stated that AeroNav Products will investigate the resources required to make the change. Brad requested that the Visual Charting Team look into what would be involved in changing the symbology. Rick agreed to investigate.

STATUS: OPEN

ACTION: Rick Fecht, AJV-3213, will conduct an analysis of how much work and resources would be involved to manually revise the transmission line symbology on Sectional charts.

ACTION: Brad Rush, AJV-344, will report back after AeroNav Products assesses the scope of the issue.

MEETING 15-01

Rick Fecht, AJV-5223, provided an update on the actions taken by Visual Charting since last ACF. Rick stated that the VFR Charting team evaluated the impact of changing the transmission line depiction. He reported that it would take over 10,000 man-hours to manually change the transmission line depiction on all VFR charts. Rick emphasized to the audience that the current charting process is manual and such a large change is not feasible at this time.

LCDR Brian McLaughlin, USCG, [restated his opinion](#) that the current FAA transmission line depiction should be revised to enable pilots to more readily discern transmission lines from other items charted.

It is his belief that if the depiction on the charts was easier to discern and interpret, pilots would be more likely to identify & avoid the hazard.

Valerie Watson, AJV-553, stated that utilizing the current manual charting process, the Visual Charting team does not have resources available to make the requested change to the charts. Valerie added that the FAA will reconsider the issue once the Visual Charts have been fully automated. Valerie stated that a business case for changing the symbology is difficult to defend as no data has been submitted to AIS to support the claim that the depiction of the lines have been a causal factor in this or similar accidents. She pointed out that the Coast Guard Investigative Report of the accident that precipitated this recommendation stated 16 causal factors for the incident, none of which were related to chart depiction of the transmission lines. Among the listed contributing factors for the subject incident were: "failure to comply with established altitude restrictions and policy regarding low-level flight"; "lack of adequate aeronautical hazard marking on the power transmission lines" (meaning the markers on the wires, not the charts); "apparent decision of the PIC to divert CG 6017 from its flight path to overfly a Coast Guard surface asset at a low altitude". The report stated "The Sanctuary altitude restriction is reflected in the Seattle Visual Flight Rules (VFR) Sectional Chart." and "The power transmission lines were appropriately depicted on the Seattle VFR Sectional Chart". The representatives from the USCG acknowledged the FAA's position. LCDR McLaughlin responded that the USCG would conduct research to find if there is concrete data linking the FAA chart depiction of transmission lines to accidents of this type. This issue remains open pending LCDR McLaughlin's findings.

STATUS: OPEN

ACTION: LCDR McLaughlin, USCG, to provide accident/incident report findings linking transmission line chart symbology to accident incidence.

MEETING 15-02

Valerie Watson, AJV-553, reviewed the issue. Valerie stated that the United States Coast Guard (USCG) was to provide findings linking FAA transmission line chart symbology to accident incidence. There were no findings submitted by the USCG and they were not in attendance at the meeting. Valerie proposed to close the issue. There were no objections.

STATUS: CLOSED