Ms. Cynthia Hilton
Executive Vice President
Institute of Makers of Explosives
1120 19th Street, NW.
Washington, D.C.  20036

Dear Ms. Hilton:

This is in response to the Institute of Makers of Explosives’ (IME’s) recent inquiry to the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF). You asked for our current assessment of the IME Safety Analysis for Risk (IMESAFR) probabilistic assessment tool and if ATF will consider variance requests to deviate from the current distance requirements based upon IMESAFR evaluations.

IMESAFR is a software program that can provide a comprehensive assessment of the overall risk to individuals from commercial explosives operations. IMESAFR calculates risk in terms of the statistical expectation for loss of life from an explosives event by determining the probability of event, the probability of fatality given an explosives event with a person present, and the probability of personnel exposure. IMESAFR also calculates various hazard mechanisms (e.g. pressure, impulse, building failure, debris, and temperature) based upon potential explosion site and exposed site information entered by a user.

The regulation at 27 CFR 555.206 requires explosives storage magazines containing high explosives and blasting agents to be stored minimum distances (specified in the tables at 555.218 and 555.220) from inhabited buildings, highways, passenger railways, and other explosives storage magazines based only upon the quantity and class of explosives in the magazine(s) and the distances from exposed sites. ATF adopted these minimum specified distances from the IME’s Safety Library Publication 2, The American Table of Distances.

As you are aware, ATF continues to participate on the IMESAFR development team and several ATF officers have completed the IMESAFR training course. ATF is also evaluating ATF-compliant storage sites using IMESAFR. ATF recognizes that IMESAFR can be a valuable tool
Ms. Cynthia Hilton

for explosives licensees and permittees to evaluate their explosives operations and implement changes to reduce risk to their employees and the public from their explosives operations. IMESAFR accounts for information that is not currently used to determine compliance with ATF distance requirements and can evaluate high explosives and blasting agent activities (e.g. manufacturing, repackaging, perforating gun assembly, disposal) that are currently outside the scope of ATF’s distance requirements.

After careful consideration and evaluation, ATF will accept variance requests to deviate from the prescribed quantity and distance requirements based upon IMESAFR evaluations. We have determined that an IMESAFR-based variance approval may be justified, in part, when an explosives licensee or permittee reduces the risk of an explosives storage site – that fails to meet ATF’s regulatory distance requirements – to a risk level equivalent to that prescribed by ATF table of distance regulations. For example, an industry member who wants to exceed the maximum allowable net explosives weight specified in 27 CFR 555, Subpart K – Storage, must be able to reduce the risk through actual changes to the potential explosion site (e.g. adding a barricade, changing the front azimuth) to a risk level equivalent to the current regulatory requirements.

Keep in mind that industry members, in addition to lowering the risk to a magazine site as specified above, must also meet the regulation at 27 CFR 555.22, which requires that (1) good cause is shown for the use of the alternate method or procedure; (2) the alternate method or procedure is within the purpose of, and consistent with the effect intended by, the specifically prescribed method or procedure and that the alternate method or procedure is substantially equivalent to that specifically prescribed method or procedure; and (3) the alternate method or procedure will not be contrary to any provision of law and will not result in an increase in cost to the Government or hinder the effective administration of Part 555.

ATF will continue to evaluate IMESAFR and how to further incorporate it into our public safety mission. We trust the foregoing has been responsive to your request. If you have additional questions, please contact the Explosives Industry Programs Branch at 202-648-7120.

Sincerely yours,

Paul W. Brown
Chief, Explosives Industry Programs Branch

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Chief, Explosives Industry Programs Branch

c: chilton@ime.org