

44.459/2: Cp 7/3/pt. 2

# CONTROL OF EXPLOSIVES

Administration and Execution of the Laws Pertaining to  
the Control of Explosives

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## HEARINGS

BEFORE THE

SUBCOMMITTEE TO INVESTIGATE THE  
ADMINISTRATION OF THE INTERNAL SECURITY  
ACT AND OTHER INTERNAL SECURITY LAWS

OF THE

## COMMITTEE ON THE JUDICIARY UNITED STATES SENATE

NINETY-FOURTH CONGRESS

SECOND SESSION

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### PART 2

MINING ENFORCEMENT AND  
SAFETY ADMINISTRATION

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MAY 18, 1976

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Printed for the use of the Committee on the Judiciary



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### SUBCOMMITTEE TO INVESTIGATE THE ADMINISTRATION OF THE INTERNAL SECURITY ACT AND OTHER INTERNAL SECURITY LAWS

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## CONTROL OF EXPLOSIVES

### Administration and Execution of the Laws Pertaining to the Control of Explosives

TUESDAY, MAY 18, 1976

U.S. SENATE,  
SUBCOMMITTEE TO INVESTIGATE THE  
ADMINISTRATION OF THE INTERNAL SECURITY ACT  
AND OTHER INTERNAL SECURITY LAWS  
OF THE COMMITTEE ON THE JUDICIARY,  
*Washington, D.C.*

The subcommittee met, pursuant to notice at 10:35 a.m. in room 357, Russell Senate Office Building, Senator James O. Eastland (chairman) presiding.

Present: Senators Eastland and Thurmond.

Also present: Richard L. Schultz, chief counsel, and Robert J. Short, senior investigator.

The CHAIRMAN. By resolution passed just a month ago, the Senate Internal Security Subcommittee committed itself to investigate, in depth, the problem of explosives control, because this is something that impinges directly on the internal security of our country. Our interest encompasses both the administration and execution of the laws pertaining to explosives control, with a view towards keeping explosive materials out of the hands of criminals. Today's hearing is a continuation of our inquiry which we commenced last month. It is our belief that these hearings will throw light on a number of questions that are of interest to the Congress and to the public. Among these questions are the following:

(1) Are the current laws governing the granting of licenses to manufacturers and distributors of explosives adequate?

(2) Are the laws governing the granting of permits to users adequate?

(3) Are licensees required to exercise adequate control over their explosives storage facilities, by which theft may be prevented?

(4) How big a role does the theft of explosives play in encouraging or enabling terrorists and other criminals to perpetrate bombings?

Our witnesses today are representatives from the Mining Enforcement and Safety Administration, a part of the United States Department of the Interior. We are pleased to welcome Mr. Herschel Potter, Chief, Safety Division, Coal Mine Health and Safety; Mr. Roland V. Wilson, Chief, Safety Division, Metal and Non-Metal Mine Health and Safety; and Mr. Edward M. Green, attorney-advisor, before the subcommittee today.

Mr. Potter, you may proceed.

Mr. POTTER. I have a prepared statement I would like to read, Senator.

The CHAIRMAN. Fine.

**STATEMENT OF HERSCHEL H. POTTER, CHIEF, DIVISION OF SAFETY, COAL MINE HEALTH AND SAFETY, MINING ENFORCEMENT AND SAFETY ADMINISTRATION, DEPARTMENT OF INTERIOR, ACCOMPANIED BY ROLAND WILSON, CHIEF, DIVISION OF SAFETY, METAL AND NONMETAL MINE HEALTH AND SAFETY; EDWARD GREEN, ASSISTANT TO THE DIRECTOR OF MINING ENFORCEMENT AND SAFETY ADMINISTRATION; AND CLIFFORD ELLIS, COAL MINE SAFETY SPECIALIST, AND LIAISON OFFICER WITH BUREAU OF ALCOHOL, TOBACCO, AND FIREARMS**

Mr. POTTER. Mr. Chairman and members of the subcommittee, I am Herschel H. Potter, Chief, Division of Safety, Coal Mine Health and Safety, Mining Enforcement and Safety Administration, MESA, Department of the Interior. I am here in response to your request to provide information on MESA's administration of an operating agreement with the Bureau of Alcohol, Tobacco and Firearms, concerning title XI, Regulation of Explosives, as contained in the Organized Crime Control Act of 1970. I am accompanied by Mr. Roland Wilson, Chief, Division of Safety, Metal and Nonmetal Mine Health and Safety, and Mr. Edward Green, Assistant to the Administrator of MESA, and Mr. Clifford Ellis, Coal Mine Safety Specialist on my staff and the liaison officer with ATF.

Director Davis of the Bureau of Alcohol, Tobacco and Firearms, in his testimony before the committee on April 8, 1976, mentioned briefly our involvement in assisting their Bureau to enforce the regulations of explosives. I would like at this time to explain our role in this effort and very briefly give some background information on the Mining Enforcement and Safety Administration.

MESA was created by secretarial order on May 7, 1973, by separating the health and safety functions of the Bureau of Mines into a separate and independent organization within the Department of Interior. MESA is responsible for the enforcement of the Federal Metal and Nonmetallic Mine Safety Act enacted in 1966 and the Federal Coal Mine Health and Safety Act of 1969. These laws and regulations promulgated thereunder contain mandatory provisions governing the use, handling, and storage of explosives in open pit, surface and underground mines, which in many instances closely parallels ATF's regulations. The mining industry consumed over 80 percent of the 3.1 billion pounds of explosives manufactured in the United States in 1975. Of this total, about 1.6 billion pounds are consumed in the coal industry, and 0.9 billion pounds in the metal and nonmetal industry.

We inspect underground mines in their entirety four times a year, surface coal mines, three times a year, and metal and nonmetal quarries at least once annually. Because of our familiarity with the explosive regulations and the requirement that we inspect mining operations, it became obvious to ATF and MESA that it would be



an unnecessary duplication of effort for two Government agencies to inspect and enforce regulations on explosives storage facilities. Albeit, the two agencies had different responsibilities—ATF, the responsibility for the security of explosives, and MESA, the responsibility for the safe storage, use, and handling of explosives. The two agencies explored methods of enforcement of the Organized Crime Control Act and concluded that MESA could enforce certain provisions of the act during their normal inspection routine at mining operations. On May 21, 1971, an agreement was signed between the Department of the Treasury and the Department of the Interior to that effect.

Since that time, MESA inspectors have included ATF regulations in their considerations whenever inspections have been made of explosives storage facilities. MESA inspectors inspect these facilities during their routine inspections. During 1975, MESA made a total of 10,089 such inspections. There were 6,406 inspections made at coal mines and 3,683 inspections made at metal and nonmetal mines. We estimate that MESA personnel spent nearly 25,000 man-hours performing this inspection work. MESA receives no financial reimbursement for this work.

The nature of our inspection work for ATF consists of application inspections, variance inspections, regular inspections and special assistance to Treasury.

MESA inspects the explosive storage facilities and checks for compliance with subpart J regulations, Commerce in Explosives part 181 of title 27, Code of Federal Regulations. Mine operators are informed of all infractions whether they be violations of ATF regulations or MESA regulations. MESA sets compliance dates for violations of MESA regulations and informs ATF of all violations of their regulations. MESA does not have the authority, itself, to enforce ATF regulations. MESA inspectors also check operator compliance with recordkeeping requirements on all licensees and permittees.

For the record, we would like to submit the following: A memorandum of understanding, dated May 17, and 21, 1971; the order—Explosives application and compliance inspections by mining enforcement and safety administration, dated May 5, 1976; Public Law 91-173; Public Law 89-577; title 30, Code of Federal Regulations revised as of July 1, 1975; and coal mine inspection manuals.

That concludes my prepared statement and we are now available to answer questions.

The CHAIRMAN. They will be admitted into the record.

[The memorandum of understanding and order—explosives application and compliance inspections will be found in the appendix, p. 103. The remaining documents mentioned may be found in the files of the subcommittee.]

Mr. SCHULTZ. Mr. Potter, how many mines are there in the United States?

Mr. POTTER. We will split our answering up. I will answer for the coal mines and Mr. Wilson for the metal and nonmetal mines.

In the coal mining industry there are approximately 2,100 underground mines and 3,100 surface coal mines.

Mr. WILSON. In addition to that, in metal and nonmetal industry, we have approximately 675 underground mines and about 12,250 surface operations. These are mines that are active at any one time.

Mr. SCHULTZ. Are inspections conducted without advance notice?

Mr. POTTER. Yes, sir. There is a provision in the Coal Mine Health and Safety Act that prohibits advance notice of inspections.

Mr. SCHULTZ. Then I take it that the inspections on behalf of ATF are conducted in conjunction with your health and safety inspections?

Mr. POTTER. That is correct.

Mr. SCHULTZ. What training, if any, is given to your inspectors who conduct these inspections?

Mr. POTTER. Shortly after we entered into an agreement—and I will speak for coal—ATF personnel conduct training programs for key personnel in coal mine health and safety, and they in turn taught our inspectors. In our agreement which I referred to dated May 5, 1976, that clarified an existing agreement. We thought a clarification necessary because ATF became an independent agency of its own in Treasury and not under IRS, and we became an independent agency in the Interior, no longer under Bureau of Mines. It sets forth the procedure for additional training for our personnel.

Mr. SCHULTZ. You have your own training program in addition to that provided by ATF?

Mr. POTTER. That is correct.

Mr. SCHULTZ. But that training would relate specifically to or focus upon health and safety, is that true?

Mr. POTTER. We also teach ATF—we have training for coal mine inspectors 80 hours a year mandatory. In 1974, we devoted part of that 80 hours to ATF regulations. So we keep our inspectors up to date on the regulations.

Mr. SCHULTZ. Thank you. In connection with your inspections, do you inspect each process of the mining operation?

Mr. POTTER. Again, for coal mine health and safety, the answer is yes. Mr. Wilson might want to respond to some of your questions from metal and nonmetal.

Mr. SCHULTZ. All right, I would appreciate an answer.

Mr. WILSON. Would you repeat the question?

Mr. SCHULTZ. Do you inspect each operation of the mine?

Mr. WILSON. Yes. Our inspections at all mines include the entire operation.

Mr. SCHULTZ. If you inspect on a day when they are not doing those particular operations that require inspection, do you go back and inspect those operations later?

Mr. WILSON. Yes. We try to inspect all conditions while they are operating, and we will make a special effort to do so.

Mr. SCHULTZ. Could you tell us what portion of your inspection service is attributable to the memorandum of understanding and the ATF requirements?

Mr. WILSON. Speaking for metal and nonmetal, we have many, many mines which, of course, do not use any explosives at all and are not subject to any of the requirements of the Organized Control Act, the Crime Control Act, but at our larger mining operations that do use explosives, overall we would probably be expending approximately 15 percent of our time to the inspection of explosives and its other parts clear down through the use. And this, of course, will vary depending upon the size of a mining operation. But, of the time that we spend enforcing our own regulations, we spend probably one fourth of that time specifically looking at the BAFT requirements.



Mr. SCHULTZ. Thank you.

Upon the completion of an inspection, is a written report prepared?

Mr. POTTER. In coal mine health and safety, we do not prepare a narrative report. Our report is an accumulation of citations issued during the inspection, along with pertinent information on the mines. So it is not a written, narrative type report; no, sir.

Mr. SCHULTZ. Well, the focus of our inquiry, of course, is the control of explosives.

Is there a written report prepared on the inspection aspect that applies to the ATF regulations?

Mr. POTTER. Any violations of ATF regulations, we inform ATF personnel of the violations, that is correct.

Mr. SCHULTZ. How do you inform them, by written report?

Mr. POTTER. By notice, a form that they have designed for our use.

Mr. SCHULTZ. Would you have jurisdiction to take corrective action or to close down the operation until remedial action is taken?

Mr. POTTER. Not if it is ATF regulations that are violated. If it is a MESA regulation, we do have.

Mr. SCHULTZ. Would you supply to the subcommittee the number of violations that have been determined by MESA over the past 3 years?

Mr. POTTER. I have a number for calendar year 1974-75 in coal mine health and safety. That is 426. But we can break that down for you for the 3-year period.

Mr. SCHULTZ. And Mr. Wilson, do you have similar statistics for your jurisdiction?

Mr. WILSON. Yes, sir, let me find that here.

During 1975, we made inspections at which 558 inspections were made where we had violations that occurred. They may have been multiple violations within those inspections.

Mr. SCHULTZ. While you have the microphone in front of you, would you identify the nature of those violations if you can? Could you break them down for us?

Mr. WILSON. They can occur in any realm of the BATF regulations, but probably the predominant violation is not having two locks on storage facilities, having exposed metal within the interior of a storage facility—those are probably the most common violations.

Mr. SCHULTZ. Now, as I understand it, you furnish this information to ATF.

Does ATF then make a physical or an on-premise check to insure that the problem has been remedied?

Mr. WILSON. During our inspections, we also inform the mine operator where there is a violation of our regulations or BATF regulations. Of course, we do inform BATF. We do make revisits to all the mining properties for the compliance of our regulations and also to check on theirs.

Normally, these things are corrected by a mine operator, whether ATF returns to make followups or not.

Mr. SCHULTZ. Do you return to follow up or see that these deficiencies have been remedied?

Mr. WILSON. Yes; we do.

Mr. SCHULTZ. You say you advise ATF.

To whom do you send these notices of violation—the regional district, or where?

Mr. WILSON. We send them to the ATF regional offices.

Mr. SCHULTZ. And at that point you are through with it—or do they respond to you and acknowledge that they have received this or that they have taken corrective action?

Mr. WILSON. I don't recall them giving us any acknowledgment of receipt of these notices. On our revisits, if we do see the same violation, we do again inform them, but to my knowledge we have not had any problem achieving compliance with their regulations.

Basically, they are a lot of the same regulations that we have anyway, and we normally will achieve compliance under our own regulations.

Mr. SCHULTZ. What criminal or civil sanctions are imposed on violations of your regulations?

Mr. WILSON. There are different types of penalties under our two different laws. I will speak for metal and nonmetal. When we issue or find a violation of a mandatory standard, we issue a notice of violation to an operator. He has a specified time period within which to correct that violation. If, upon our return, we find a mine operator has not abated that violation, we have the authority to issue closure orders at that particular mining operation until it is corrected, and that is our tool.

Mr. SCHULTZ. Please tell the subcommittee how many closure orders you have implemented over the past 3 years.

Mr. WILSON. Let me make a guess on that. Last year, 1975, we issued approximately 3,100 closure orders. In 1974, we issued approximately a little over 2,000 closure orders; and I think over the last 3 years, it has exceeded 6,000 closure orders. Now, these are not BATF regulations. These are closure orders issued under the Federal Metal and Nonmetal Mine Safety Act in total.

Mr. SCHULTZ. What is the predominant problem, or cause, that requires the closure order?

Mr. WILSON. We issue two separate types of closure orders. One is an imminent danger condition, and one is a failure to comply with a notice of violation, and they run approximately 50-50 on each type of closure order.

Mr. SCHULTZ. What is the duration of the closure?

Mr. WILSON. Until correction of the hazard. What a closure order means is that all persons must be withdrawn from any area that is deemed to be hazardous. Now, if persons are not exposed to the hazard, then that order can remain unabated, and of course, it is the people that we are concerned about. So the answer to your question, there may not be any time period for correction. It is just that people must remain withdrawn from any closed area.

You should ask Mr. Potter the question about sanctions under the coal law because it is different.

Mr. SCHULTZ. I plan to direct questions to Mr. Potter in just a moment.

In talking about the closure orders and the relationship between the problem being a safety factor, aren't there remote locations where explosives are stored that might not meet this criteria?

First let me ask this. Do you inspect the remote locations where explosives are stored?

Mr. WILSON. As long as those explosives are stored on the mining property, yes, we do. If it is not something that falls within MESA jurisdiction, that still requires the storage of explosives, we do not inspect that.

Mr. SCHULTZ. So you do inspect remote locations so long as they are on mining properties.

Mr. WILSON. Yes; that is correct.

Mr. SCHULTZ. Looking at the criteria of a possible closure based on a problem relating to safety, do you have closure authority for remote locations where explosives are stored?

Mr. WILSON. Yes; we do have that for closure.

Mr. SCHULTZ. I will direct the following questions to Mr. Potter.

Would you give us some breakdown of the 426 violations that you recorded in your jurisdiction?

Mr. POTTER. I don't have a breakdown at the moment. We can provide the subcommittee with that breakdown. However, it is my understanding that most of the violations we have is on storage facilities, and pretty much as Mr. Wilson says, two locks not being on doors and metal being exposed inside. Our regulations as far as metal being exposed inside of a surface magazine is the same as ATF, so we would enforce that under the MESA regulations, but the two locks is not a requirement of our regulations itself.

The sanctions against the operator are pretty much as Mr. Wilson has explained, with a couple of exceptions. Our act has a civil penalty clause, and for every mandatory—every violation of mandatory health and safety standards, the penalty can go as high as \$10,000, and we do assess a civil penalty for each and every one.

Mr. SCHULTZ. Could you advise us how many penalties have been assessed over the past 3 years?

Mr. POTTER. I have no idea. I know there were over \$9 million collected in calendar year 1975 against the coal mining industry for violation of our regulations. We could break that down for you.

Mr. SCHULTZ. Would you supply that for the record.

Mr. POTTER. Yes, sir.

Mr. SCHULTZ. Mr. Chairman, I would like to ask that this and all future exhibits be included in the record, subject to review.

The CHAIRMAN. So ordered.

[The information referred to will be found on page 120 of the appendix.]

Mr. POTTER. The other thing, there is a provision in our law for a willful violation. If we determine that the operator has willfully violated the law, then the penalty can be as much as \$25,000 and a term in prison.

I think those are the only two things in our law that are not really covered by Mr. Wilson's testimony.

Mr. SCHULTZ. In your opening statement you mentioned you did not have jurisdiction to enforce the Bureau of Alcohol, Tobacco, and Firearms regulations. I understand from this that you do not impose any criminal sanctions when you find violations?

Mr. POTTER. That is correct; only if their regulations parallel ours, then we would be enforcing MESA regulations, and there would be taken action.



Mr. SCHULTZ. Do you get any feedback at all from the Bureau of Alcohol, Tobacco, and Firearms concerning what resolution is made in connection with the violations that you refer to them?

Mr. POTTER. We don't have everything going through our Washington office. The district managers in charge of our districts, and we have 10 districts, have a lot of flexibility in the enforcement of the act. They have their own contact and their own communication with, I think it is called the assistant regional manager for ATF. The title may be wrong, but it is something like that. So they confer with each other; they know who their counterparts are at the district level. So there is a flow of communication between those people. It does not come through our Arlington office, so I do not know.

In questioning our district managers about this, they did tell us they have a line of communication, they had no problems with ATF personnel in the flow of communications. In fact, we asked them if they had any problems in the enforcement—not the enforcement, but the inspection for ATF regulations, and all 10 of them said they had had no problems.

Mr. SCHULTZ. Do you provide a quarterly or yearly written report to ATF concerning violations?

Mr. POTTER. Quarterly we tell them the number of inspections that we have made. There is no other breakdown. It is a total cumulative number.

Mr. SCHULTZ. Is there a great difference between the number of inspections and the number of violations for the various districts?

Mr. POTTER. As again the district managers notify their counterparts in the district level of the number of violations and whatnot—the type of violations—but our report to the ATF here in Washington is a number.

Mr. SCHULTZ. The number of inspections?

Mr. POTTER. The number of inspections. We don't break down what the violations were. We don't ask our districts to provide us with that information either. I am speaking for coal. Metal may have another system. We don't ask our district managers to provide us the number of violations or type of violations they cite for our own regulations. It is available if we need it.

Mr. SCHULTZ. It seems to be a very fragmented approach. If violations are orally presented to the district managers, who is coordinating this program to ensure that the violations are corrected?

Mr. WILSON. Let me amplify on this for just a minute. BATF furnishes us with a form, which maybe I can give you this sample. This is a copy of an inspection report made by one of our inspectors. It notes that there were violations made, and this is a report of violations, so we only fill this out if there are violations. But our inspectors do fill out this inspection report and send it to BATF. Also, we keep a copy in our files.

Upon a reinspection, we are again checking to see that the operator has complied with these, because we have notified him of the violations at the time we made the inspection in the first place.

Mr. SCHULTZ. Do you again follow up with this form on your reinspection?

Mr. WILSON. Yes, we do.

Mr. SCHULTZ. You submit that to ATF again?

Mr. WILSON. If necessary we submit that again if the mine operator has not complied. If he has, then it just drops right there.

Mr. SCHULTZ. Only in the event of noncompliance do you refile with ATF—is that correct?

Mr. WILSON. That is correct. Upon a revisit we notify ATF of corrections of violations on the back of the same form upon which we notified them that a violation existed.

Mr. SCHULTZ. Within your jurisdiction, do you also supply quarterly and annual reports to ATF concerning the total number of violations within your districts or geographical divisions?

Mr. WILSON. We don't necessarily keep track of the total number of BATF violations. We do keep track of the number of inspections that we make for BATF, the number of application inspections, variance inspections, or the number of inspections where violations may have occurred. We do not ourselves keep track of the specific number of violations for BATF.

Mr. SCHULTZ. Is the theft of explosives or unexplained disappearance of explosives from storage areas reported to BATF?

Mr. WILSON. Yes; the law does require that all thefts be reported directly to BATF.

Mr. SCHULTZ. I believe the law requires that they be reported within 24 hours upon determining that a theft has occurred, is that correct?

Mr. WILSON. Yes; I think that is correct. I don't know for sure.

Mr. SCHULTZ. Does BATF then conduct an investigation of each and every loss to explain the disappearance, or does MESA do it?

Mr. WILSON. That is the BATF responsibility, and we do not do it. As a matter of fact, we are not necessarily aware that there has been a theft. It is something that is strictly between a mine operator and BATF at that point.

Mr. SCHULTZ. The mine operator is not required to notify MESA of the theft or unexplained disappearance?

Mr. WILSON. No; there is no requirement they notify MESA of the theft of explosives.

Mr. SCHULTZ. Mr. Potter?

Mr. POTTER. In coal mine health and safety, since the agreement in 1971, there have been 11 instances of theft or missing explosives reported to our district managers. They immediately notified ATF, and investigations were made by ATF, in many instances by State police in the State in which the mine was located.

Mr. SCHULTZ. You say 11 instances?

Mr. POTTER. Yes, sir, since 1971 up through the end of April, I suppose, that we asked the question.

Mr. SCHULTZ. Mr. Potter, you are not saying that that is the total number of thefts. You are only saying that is the total number that were reported.

Mr. POTTER. That is correct, that we are aware of, that were reported to our district managers.

Now, there is no legal requirement. When our inspectors visit or inspect coal mine property, they talk to the coal mine operator about the need to report missing or the theft of explosives, and out of that, in some locations, MESA is pretty well known, and since a MESA inspector has cautioned them about this, they will report it to our district manager, though there is no legal requirement.



Mr. SCHULTZ. Do you think it would be helpful if thefts were required to be reported to MESA since MESA people are onsite and have a close working relationship with the mine operators?

Mr. POTTER. Well, we are highly visible in the coal mining areas of the country, MESA district offices and subdistrict offices, and I am sure that's true in metal and nonmetal. We have no problem.

Mr. SCHULTZ. Since the mining industry uses 80 percent of the explosives manufactured in the country, it seems unusual, to say the least, that only 11 instances or reports of loss or theft of explosives have occurred since 1971.

Mr. POTTER. I'm saying that's all they reported. Now, there could have been a number reported to ATF. We don't know that.

Mr. SCHULTZ. Could you provide us the statistics provided to MESA by the regions covering the deficiencies that have occurred?

Mr. POTTER. Yes.

Mr. SCHULTZ. And Mr. Wilson, how about your jurisdiction? Could you also provide that?

Mr. WILSON. Yes; we can.

For what period of time, sir?

Mr. SCHULTZ. For the last 3 years.

[Mr. Potter subsequently supplied the figure of 20 as the reported loss of explosives from theft or other reasons.]

Mr. SCHULTZ. Mr. Potter, do your inspectors inspect all storage facilities?

Mr. POTTER. Yes, sir, that is part of their inspection.

Now, as Mr. Wilson said, not all mining companies use explosives. I would say less than 50 percent of the underground mines use explosives. They use continuous miners and that type of equipment for the extraction of coal, but then the inspector makes an inspection of the entire mine four times a year, on underground mines, and three surface. And their instructions, as outlined in the instruction manual that I provided to the subcommittee, tells them that this is their procedures, and they would inspect all facilities on coal mine property, which would include explosives storage magazines.

Mr. SCHULTZ. Would that also include explosives stored in underground magazines as well as surface magazines?

Mr. POTTER. We store very little explosives underground, not more than a 72-hour supply. So it is a very small amount of explosives if they are stored underground. They are not in a central magazine. It would be in small section magazines with maybe three or four boxes of explosives at that location, plus a separate box for detonators. There is not a large amount of explosives stored underground in underground coal mines.

Mr. SCHULTZ. Is there some restriction on storing explosives underground for lengths of time over 72 hours?

Mr. POTTER. I'm sorry, I was just told by Mr. Ellis that it is a 48-hour supply.

The explosives will deteriorate rather rapidly in the underground atmosphere in underground coal mines, so we want that supply used rather quickly before a new supply is brought in.

Mr. SCHULTZ. Is there a daily inventory required for removal of explosives from a storage area?

Mr. POTTER. Surface magazines, storage magazines, in accordance with ATF regulations, there is an inventory. Under our regulations

we do not require an inventory. Once the explosives leave the surface magazine, generally speaking, they are loaded into what we call explosive cars, which are constructed pretty much as surface magazines, they are locked, and transported underground. Once underground, they are in an in-use status, and we do not require all of the security requirements as for surface storage magazine.

Mr. SCHULTZ. I understand from your testimony that BATF requirements are applicable to the above-ground magazines, but once they leave that and go underground, your regulations go into effect?

Mr. POTTER. That is correct.

Mr. SCHULTZ. And you say you do require a daily inventory?

Mr. POTTER. We do not. Once they are in an in-use status, we do not require an inventory. Once they go underground and are distributed at a section magazine—

Mr. SCHULTZ. How can you determine, then, if you have theft or some disappearance of explosives from an underground location?

Mr. POTTER. We have no absolute assurance that explosives cannot be brought back out by one of the miners, but we have a regulation, sir, that prohibits the smoking material from being taken underground, prohibits smoking, cigarette lighters, cigarettes and what-have-you. We have a search program to prevent that, but that search program is made periodic, not daily, and we have no assurance that smoking material is not taken underground either. So we can give no assurance either way that explosives are not brought back out. We rather doubt that they are.

Mr. WILSON. Speaking for the metal and nonmetal mines, when we find that close to 50 percent at least of the people who work underground are users of explosives, that is just a part of their work in daily work, and unless you did have a search program every day at these particular underground mines, it would be impossible to really absolutely say that explosives are not being stolen by the miners themselves. We do require, of course, that all of our miners are very competent in the use of explosives, they know the hazards of the explosives, and generally, they are just not going to be carrying explosives around in their lunchbox.

Mr. SCHULTZ. Is the underground storage a locked facility, or is it just open where anybody can obtain explosives?

Mr. WILSON. We do not have a requirement that magazines located underground be locked. Again, some of the reasons for this is that there are so many people who have a need to get into explosive storage facilities that there is no real reason to lock those magazines.

Mr. SCHULTZ. There is really a lack of control once explosives are underground because of the unlimited accessibility to those who need them?

Mr. WILSON. Well, it is certainly limited accessibility to anybody who is on the surface. There are magazines located underground in working areas, and they are accessible to any of the underground employees.

Mr. SCHULTZ. Within your jurisdiction, do you require a daily inventory of the use of explosives, when the storage facility is an above-ground magazine?

Mr. WILSON. According to BATF regulations, surface facilities are required to keep records and inventory.

Mr. SCHULTZ. How is this implemented?

Mr. WILSON. I would have to rely on a fieldman to answer that for me, as I haven't personally done this in many years.

Mr. SCHULTZ. Do they have a supervisor of the magazine that is physically in place all day?

Mr. WILSON. OK. In main surface storage facilities where the bulk of explosives are kept, there are generally maybe two people who would have the key and access to a main surface storage facility. They would take explosives—well, when they are delivered, store them in the magazine, and when they are needed, these same people would take the explosives out and deliver them to whatever facility their use is required at.

So really there are very limited numbers of people who have access to surface storage facilities, and they in turn will be maintaining the records of when material is delivered and when it is taken out.

Mr. SCHULTZ. And what records do they maintain? Do they have an inventory sheet in front of them to check it off?

Mr. WILSON. Generally they will have some sort of an inventory book that they will keep track of the explosives.

Mr. SCHULTZ. Could you provide to the subcommittee a copy of the sheet or record book that they use?

Mr. WILSON. I think we could. We would have to go back to a mine operator to get a copy of one.

[The material referred to will be found on p. 115 of the appendix.]

Mr. SCHULTZ. This is in compliance with your regulation, isn't it?

Mr. WILSON. No; this is in compliance with BATF regulations.

Mr. SCHULTZ. Does BATF provide them with the inventory forms to use?

Mr. WILSON. I don't know.

Mr. SCHULTZ. But as part of your inspection procedures, you check this log to make sure that BATF regulations are being complied with?

Mr. WILSON. Yes; we check to make sure that the mine operators have an inventory method.

Mr. SCHULTZ. Can we assume that—you say you are not completely familiar with it—there is a date on the form and the supervisor or whoever is in control of the magazine initials and then signs out the allocation of explosives?

Mr. WILSON. Yes; we can certainly assume that.

Mr. SCHULTZ. And this is kept on a daily basis?

Mr. WILSON. Right. Well, not necessarily a daily basis, but depending upon if explosives are used, whenever they are used, taken in and out, then of course the inventory—

Mr. SCHULTZ. What about the explosives that are checked out but not used? Are they then returned to the magazine?

Mr. WILSON. Yes; they are returned to the magazine, and we require that, that all explosives be returned to the magazines as soon as they are no longer needed.

Mr. SCHULTZ. Is there a separate entry for the return of these explosives?

Mr. WILSON. Yes; that would be part of the inventory record.

Mr. SCHULTZ. Mr. Potter, would you care to comment on this same subject matter pertaining to your jurisdiction?

Mr. POTTER. Because of the small amount of explosives taken in underground coal mines, it is generally used and not returned to the surface magazine.



In surface coal mines, any explosives that are not used are returned and record made. But again, most of our explosives used in surface coal mines is ANFO, which you are familiar with, I am sure, and until that is mixed or put together for a blast—well, they take out enough to shoot the holes that they are going to is what I am trying to say, so the chances are that there is no explosive taken back to the surface magazine of the coal mine because it is used on the site.

Mr. SCHULTZ. Are there ever occurrences when the explosives set to be charged did not actually go off?

Mr. POTTER. I am sure there are misfires. I have no record or knowledge of how many misfired shots we've had, but certainly in the course of the use of explosives, there must have been misfire shots.

Mr. SCHULTZ. Do you require the industry to check, to retrieve those charges that do not actually explode?

Mr. POTTER. Our regulations spell out the procedures for handling misfire shots, yes, sir.

Mr. SCHULTZ. Briefly, what are they?

Mr. POTTER. Well, there are several ways. If it is use of permissible explosives—I'm not talking about ANFO—but permissible explosives in underground mines, you can drill a hole along the side of that misfired shot, charge and fire the shot, and you will detonate the explosives. The stemming may be washed out under water pressure, and the explosives recovered.

Mr. SCHULTZ. The storage facilities and bookkeeping requirements, do carry criminal sanctions, is that true?

Mr. POTTER. Again, in coal mine health and safety regulations, we have no bookkeeping requirements.

Mr. SCHULTZ. But BATF does, and you enforce them.

Mr. POTTER. We don't enforce them. We notify them of violations of their regulations, and they carry the ball from there.

Mr. SCHULTZ. Are you aware of how many of the violations that you have reported have resulted in criminal sanctions being imposed?

Mr. POTTER. No, sir, I don't.

Mr. SCHULTZ. Could you give us the statistics pertaining to the violations—pertaining specifically to violations of the storage of explosives?

Mr. POTTER. Yes, sir, we can provide that information.

Is that for the 3 years also?

Mr. SCHULTZ. For the past 3 years, by region.

[The information referred to follows:]

#### VIOLATION OF ATF EXPLOSIVES STORAGE REGULATIONS

District	1973	1974	1975
1.....	0	0	0
2.....	3	2	1
3.....	2	3	9
4.....	5	10	0
5.....	93	32	266
6.....	(1)	(1)	(1)
7.....	5	2	2
8.....	5	2	14
9.....	2	1	7
10.....	(2)	(2)	(2)

<sup>1</sup> (58) 3-yr period.

<sup>2</sup> (41) 3-yr period.

Pertaining to violations relating to the storage of explosives, do you get any feedback from ATF concerning what they have done and what resolutions may have come?

Mr. POTTER. I'm sure that that line of communication between their regional office and our district office exists, and I do know that they do talk to each other, tell each other what they are doing about regulation and what-have-you. Exactly what that constitutes, I really don't know, but we could find out.

Mr. SCHULTZ. Were these violations reported in writing?

Mr. POTTER. I think the answer to the question—

Mr. SCHULTZ. We are talking about storage facilities specifically. Do you advise ATF in writing?

Mr. POTTER. Yes, sir, we record it in writing.

Mr. SCHULTZ. And it is the same form Mr. Wilson held up before him?

Mr. POTTER. We may use a different form. It is a BATF form. It is a BATF form; yes, we are using the same form.

Mr. SCHULTZ. Well, if you find a violation, do you then go back and reinspect, or do you just leave that up to ATF once they are notified?

Mr. POTTER. You know, when we start an inspection, we may be at that mine for 1 week, 4 weeks, 60 days, for a long period of time, to make an inspection of the entire mine, and we have followup, and we find something wrong today and we issue a notice of violation of our regulation, certainly we have to follow it up, but if we would cite or find or observe a violation of ATF regulations, certainly we would follow up to see if a correction was made.

Mr. SCHULTZ. Mr. Potter, how many inspectors do you have?

Mr. POTTER. We have, in round figures, about 1,350.

Mr. SCHULTZ. Mr. Wilson, does that include your inspectors?

Mr. WILSON. No. Within metal and nonmetal industry, we have approximately 300 inspectors.

If I may, I might like to give you some numbers of the type of inspections that we in metal and nonmetal performed in 1975.

We made 30 application inspections. We made eight application inspections at which the application was not approved. We made five mine revisits concerning applications. We made 2,934 regular inspections at which we found no infractions of BATF regulations. We made 558 inspections at which violations were noted. We made 146 regular inspections concerning revisits on infractions of violations, and that is about it. That was during 1975. That is the variety of work that we have done.

Mr. SCHULTZ. That is with 300 inspectors?

Mr. WILSON. Yes, that is correct.

Now, we also—this is only concerning BATF. All our safety inspectors, as a total, made over 30,000 inspections last year, but this is only the portion of BATF.

Mr. SCHULTZ. 30,000 inspections is a very impressive figure. Could you tell us what that means?

Surely we are not talking about 30,000 different locations, but a location where you inspect many different items? Is that how you compute 30,000 inspections?



Mr. WILSON. This 30,000 inspections reflects 30,000 visits to mine properties.

Mr. SCHULTZ. Individual properties?

Mr. WILSON. Individual properties.

Now, of course, as mentioned, we only have approximately 14,000 mining operations, so we do get back to the mining operations. As we indicated, we go to underground mines at least four times a year, and we try to inspect all surface operations at least once. We do inspect our larger surface operations more than once.

Now, of those 30,000 inspections, we would have what we call regular inspections and spot inspections. A regular inspection is an inspection where we inspect the operation in entirety, and our spot inspections are mainly for the purpose of going back to make sure of the compliance with any violations that may have been noted during the regular inspection.

Mr. SCHULTZ. Those 300 men are very busy.

Mr. WILSON. Yes; they are. They are on the road approximately 65 percent of the time.

Mr. SCHULTZ. Could you tell us, please, whether you are reimbursed by ATF for the functions that you handle for them?

Mr. WILSON. No, sir; we are not reimbursed by BATF for the work that we do for them.

Mr. SCHULTZ. Is this a line item in the Department of the Interior budget?

Mr. WILSON. No, sir; no special request is made for funds to do this.

Mr. SCHULTZ. Do you believe that you have a sufficient number of inspectors to carry out the responsibilities that you have undertaken in the Memorandum of Agreement with ATF?

Mr. WILSON. Yes; we feel that we have enough inspectors to adequately do the job for BATF. We are within metal and nonmetal still seeking more inspectors basically to increase our frequency of inspections at surface operations.

Mr. SCHULTZ. Would you comment, as Mr. Potter did previously, on the training of your inspectors?

Mr. WILSON. Yes; Mr. Potter mentioned that when we signed the agreement that we had some special training from BATF, upon which those people who were trained taught our other inspectors. In the last 2 years, anyway, we have had a 6-week indoctrination course for all new inspectors, and during that course we do devote approximately 4 hours to specifically explosives training and BATF regulations. So every one of our new inspectors over the last couple of years, of which there are approximately 200, has received this training.

Mr. SCHULTZ. And then is there a retraining or in-service training periodically?

Mr. WILSON. Not per se; no.

Should our work between BATF and ourselves cause some revision of existing regulations, we then at that point make this known to our inspectors.

Mr. SCHULTZ. You make your adjustments as you go along?

Mr. WILSON. Right.

Mr. SCHULTZ. I wonder if you would comment, Mr. Wilson, on the inspection and storage facilities you review in your inspection.

Mr. WILSON. In what regard, sir?

Mr. SCHULTZ. First, are all of the storage facilities inspected, and on what basis?

Mr. WILSON. Yes; all storage facilities—it doesn't matter if it is surface or underground, we will inspect them. We inspect every one of these facilities at least once a year.

Mr. SCHULTZ. You say at least once a year?

Mr. WILSON. That's correct; yes.

It would be my guess, you know, at mining operations that use explosives, they are generally the larger type of mining operations, and our inspection frequency at larger operations is much greater than once a year. So I am saying that as a minimum, we are inspecting them at least once a year.

Mr. SCHULTZ. And this would include all storage facilities on mining property?

Mr. WILSON. All storage facilities at a mining operation, yes.

Mr. SCHULTZ. Do you also have, within your jurisdiction, underground storage of explosives?

Mr. WILSON. Yes; we do have underground storage at our underground operations.

Mr. SCHULTZ. So again here the MESA regulations would apply as opposed to ATF?

Mr. WILSON. That is correct.

Mr. SCHULTZ. Would you tell us how many violations you've found within your storage inspections over the past 3 years?

Mr. WILSON. I would have to furnish those for you, and we can provide you with the number of violations concerning explosives regulations for the last 3 years.

[The information referred to will be found on page 121 of the appendix.]

Mr. SCHULTZ. And could you also provide us the results of those inspections under your jurisdiction—I think you said you had jurisdiction to impose a fine?

Mr. WILSON. No; we do not within metal and nonmetal. That is a function of the coal law.

Mr. SCHULTZ. Do you have any civil or criminal sanctions that can be imposed?

Mr. WILSON. No; we don't, unless a mine operator would violate a closure order, at which time he could be assessed a civil penalty.

Mr. SCHULTZ. Can you give us some idea of the quantity of explosives that would be on hand in the magazine in a big mining operation?

Mr. WILSON. Oh, boy. That could vary. We are probably talking upwards to 25,000 pounds at a large operation.

Mr. SCHULTZ. What is the shelf life of the explosive, or is it relevant?

Mr. WILSON. Well, that is variable, depending on really atmospheric conditions at one mine versus another. If you are in a high humidity area, of course, the explosives could deteriorate much more rapidly than in the drier countries. There are probably some areas where it probably would not be unsafe to let explosives be stored up to 1 year. High humidity areas, maybe within a week the cartons and boxes would deteriorate.

Mr. SCHULTZ. Would the prudent mining manager use his explosives on a first in, first out basis?

Mr. WILSON. The prudent mining operator would use it on a first in, first out basis.

Mr. SCHULTZ. Does MESA have regulations concerning the use of explosives with regard to how long they are left on the shelf?

Mr. WILSON. We do have specific regulations that say that any damaged or deteriorated explosives shall be removed and destroyed properly. We do have those regulations.

Mr. SCHULTZ. And is a written record maintained on explosives destroyed each year because they have deteriorated?

Mr. WILSON. That should be a part of the inventory record of a mine operator, yes, he should be keeping track of any of the damaged or deteriorated explosives as part of his routine.

Mr. SCHULTZ. If I could switch back to Mr. Potter—I am not sure now whether it was Mr. Wilson or Mr. Potter, who testified about taking explosives out of a magazine—are the men in charge of a magazine the ones who physically transport the explosive to the needed location or do they merely check the explosives out and assign them? In other words, do they stay with the storage facility or do they actually deliver the explosives?

Mr. POTTER. For underground coal mines, you have supply crews, and generally they work an off-shift, off-production shift. If you are on a three production cycle, then the supply crew may be working shift or any of the shifts.

Mr. SCHULTZ. Of course, in the underground operation you don't maintain an inventory?

Mr. POTTER. Only when you take it out of the storage facility.

Mr. SCHULTZ. But once you take it underground there is no inventory?

Mr. POTTER. No, sir.

Mr. SCHULTZ. Well, tell us about the above-ground removal of explosives.

Mr. POTTER. Above ground you have your shooting crews that are responsible for the loading, charging and firing of the holes, and they will go to the surface magazine, depending on the type of blasting, and load their truck, and will go to the blasting site. There is no one physically, to the best of my knowledge, no one physically at the surface magazine and 8-hour shift or around the clock or anything like that. The crew that does the blasting will have the keys to the surface magazine, and they will move the explosive material.

Mr. SCHULTZ. And then hopefully they lock it up when they leave?

Mr. POTTER. Well, if we find they are not locked, then we would take action by notifying ATF.

Mr. SCHULTZ. An interesting point—Mr. Martin said he thought previous testimony indicated that two men had to have keys to the storage facility?

Mr. POTTER. I know of no number myself.

Mr. SCHULTZ. Is there a Government agency that classifies what materials are explosive materials?

Mr. POTTER. I don't think so. Mr. Ellis attended a meeting, perhaps someone from Mr. Wilson's office, with the Department of Transportation some time ago where the meeting was called specifically for that purpose. At that time, I understand, they asked the Bureau of Mines to be the agency to classify explosives. I don't think they took up on that, but anyway, I have no knowledge of it.

Mr. SCHULTZ. Does MESA have a laboratory where they analyze explosives?



Mr. POTTER. Well, we have a testing laboratory in Bruceton, Pa., which is near Pittsburgh, which tests explosives for permissibility as explosives. We are only permitted in the coal mining industry to use permissible explosives underground. Dynamite is not used underground.

I hope you don't ask me to define a permissible explosive.

Mr. SCHULTZ. I was just going to ask that because I'm not sure I understand what a permissible explosive is.

Mr. POTTER. I don't think I have the technical knowledge to tell you. We do know that the permissible explosives, if used in a permissible manner, will not detonate coal dust, nor will it detonate a methane gas mixture because it has a short duration of flame.

The permissible explosives must be shot with permissible blasting units. Again, the amount of energy impressed on the shooting cable into the explosives is very limited so that you don't have a long duration of a source of energy in the explosive atmosphere.

It is a performance test of explosives, as I understand it, and if you would like to have the definitions of permissible explosives on our testing, we can provide that to you.

Mr. SCHULTZ. I think that would be helpful, but let me ask this—is it MESA that conducts this test or makes the determination whether or not the explosive is a permissible explosive?

[The following definition of permissible explosive was supplied by Mr. Potter. It is quoted from IC 8597, Active List of Permissible Explosives and Blasting Devices Approved Before December 31, 1972:

[The term "permissible explosive" as applied by the Bureau of Mines means that the explosive conforms to the basic specifications and to tolerance limits as defined in the appropriate current Bureau of Mines Schedule, and implies that it will be used as prescribed in the Schedule. A permissible explosive must at all times be handled, transported, and stored so as to retain its original characteristics.]

Mr. POTTER. That is correct, for the coal mining or the mining industry, yes, sir. We have in that title 30, the testing procedures for explosives. It is either in part 15, 16, or 17 in title 30, but it is very difficult to find. We will break that out for you and provide it to you, and maybe along with a technical dissertation on the permissibility of explosives.

[The document referred to will be found on page 106 of the appendix.]

Mr. SCHULTZ. We appreciate that.

Mr. Wilson, are the remarks of Mr. Potter applicable to your mining jurisdiction also?

Mr. WILSON. Yes. We have within the metal and nonmetal industry the requirement that at mines that have methane gas, that they also have to use permissible explosives, although the methane problem in metal and nonmetal mines is nowhere near as severe as it is in coal. In fact, it is somewhat less than a dozen mines in the United States have methane gas that are not coal mines. So it is a very minor thing with us.

Mr. SCHULTZ. I don't mean to put you on the spot, but in view of the absence of a governmental entity to determine what is an explosive, wouldn't that properly fall within MESA's jurisdiction?

Mr. WILSON. Well, let me, maybe, from my knowledge—DOT has basic responsibility for classification of explosives. Now, to my

knowledge, they have relied upon a nongovernmental agency called the Bureau of Explosives, to perform the test work for them, upon which they base their classification, and that is mainly for, of course, the transportation of hazardous materials.

Mr. SCHULTZ. Is the basis of their jurisdiction the interstate transportation of explosive materials?

Mr. WILSON. Well, I don't want to get too far afield on their business, I would rather not answer that. But I think your question was, is there a governmental agency that tests explosives?

Mr. SCHULTZ. Is there a governmental agency which classifies whether or not a material is an explosive material?

Mr. WILSON. That is done by DOT.

Mr. WILSON. They have many regulations concerning the transportation of hazardous materials, including explosives, and they must classify them and require that the transportation vehicle be labeled appropriately, which certainly includes many varieties of explosives.

Mr. SCHULTZ. Mr. Wilson, while you have the microphone there, would you comment about the "applicant" investigations conducted by MESA?

Mr. WILSON. The "applicant" investigations?

Mr. SCHULTZ. Yes.

Mr. WILSON. BATF requirements place responsibility on certain people to have permits or licenses, of which not every mining operator is required to have a permit or license, but wherever he is required to, we will make an inspection of his storage facility to assure that it is in compliance with BATF regulations.

Mr. SCHULTZ. This is prior to him being granted a license?

Mr. WILSON. Yes.

Mr. SCHULTZ. So he must have the facilities in place first, and then he makes application with you, and you inspect the facilities, and if they are suitable and meet the standards, then he is given the license.

Mr. WILSON. License or permit, depending on the circumstances.

Mr. SCHULTZ. Who approves the issuance of a license or a permit, MESA or BATF?

Mr. WILSON. BATF is the one that issues the license or permit. All we are doing is inspecting the facility to make sure that that facility meets the requirements of BATF, and we so inform them whether it does or does not.

Mr. SCHULTZ. The issuance is based on the recommendation of MESA? Or does BATF conduct an independent inspection?

Mr. WILSON. To my knowledge, they do not conduct an independent investigation of the storage facility. They rely upon our inspection for that purpose.

Now, they have got—I am sure they have other requirements that people have to meet in order to get that permit. It is not strictly a storage facility.

Mr. SCHULTZ. How many applicant investigations have you conducted in the past year?

Mr. WILSON. I seem to recall, we made 30 application inspections last year for new people who were required to have licenses or permits.

Mr. SCHULTZ. Were any of the 30 denied a permit or license?



Mr. WILSON. Yes. During those 30 we found 8 that—where the storage facility did not meet the requirements of BATF, and it was unapproved on at least the first visit.

Mr. SCHULTZ. Does MESA make a return visit, and having determined compliance, then resubmit the recommendation to BATF?

Mr. WILSON. Yes, we do. If we find that their facilities do not meet the requirements, they can refile for a new permit, and we again will go back and reinspect those facilities, and if my memory is correct, we did do five of those type inspections out of the eight that were unapproved.

Mr. SCHULTZ. Is an application for variance allowed?

Mr. WILSON. Yes, it is.

Mr. SCHULTZ. Who determines the propriety of the variance?

Mr. WILSON. We conduct again an investigation to see that whatever the operator wishes to request a variance on is equal to or better than the requirements of BATF, and we so inform BATF that in our opinion that operator's variance could be granted.

Now, the granting of that is up to them.

Mr. SCHULTZ. The final decision remains with BATF.

Mr. WILSON. Yes.

Mr. SCHULTZ. You mentioned that there were some mining operations that did not require a license or permit. Would you identify those and expand on that briefly?

Mr. WILSON. To my knowledge, it is those people who are buying explosives that have to be transported through interstate, across interstate lines, that require licenses or permits. Those mining operations that buy their explosives within the State are not required to have a permit or license.

Mr. SCHULTZ. They need only comply with the State regulations?

Mr. WILSON. No; I think they are still bound to comply with the storage regulations though.

Mr. SCHULTZ. Do you inspect them?

Mr. WILSON. Yes, we still inspect the mining operations according to BATF regulations.

Mr. SCHULTZ. In your applicant investigations, how thorough an investigation do you do in connection with the individual who applies for a license?

Mr. WILSON. We do nothing insofar as the individual is concerned. Our concern is only the security of the storage facility and it does not apply to the individual. That is BATF's responsibility.

Mr. SCHULTZ. To your knowledge, does ATF conduct any investigation relating to the individual?

Mr. WILSON. Now, when you speak of an individual, you are usually in our case talking about a company, not necessarily an individual.

Mr. SCHULTZ. Are you saying that the licenses or permits are issued in a company name then?

Mr. WILSON. I don't know for sure. I would guess that they are.

BATF licenses must be issued to the company, but again I don't know that.

Mr. SCHULTZ. Mr. Chairman, I know we are running short on time, and I know you have other commitments.

I wonder if we could keep the record open and submit some further questions for Mr. Potter or Mr. Wilson.

Senator THURMOND. Without objection, that will be done.

Mr. SCHULTZ. I just have one final question.

Senator THURMOND. All right, go right ahead.

Mr. SCHULTZ. The subcommittee's inquiry, of course, is focused upon the control of explosives, the adequacy of laws and the execution of these laws. We have only to read the daily papers to see that there are explosives in the hands of those that shouldn't have them. It becomes somewhat meaningless to keep reading statistics of the deaths and property damage without really trying to find out what we can do to help control these explosives, to keep them out of the hands of terrorists and other criminals.

Do you have some recommendations that you can make to us which might strengthen controls or help deter the explosives getting into the hands of individuals who are bent on criminal endeavor?

I ask the question, recognizing that you have within your jurisdiction about 80 percent of the explosives manufactured in the country.

Mr. WILSON. Sir, we feel that the people that are using explosives within the mining industry are very competent in the use of explosives, and they know what they are doing, and I think the mining industry itself maintains good control over their explosives.

Now, there are many, many types of explosive devices, and it is certainly very easy right now for anyone to go to a hardware store and purchase a sack of fertilizer and create an explosive right there.

Now, to try and develop recommendations to control even that sort of use I think would be very, very difficult.

Mr. SCHULTZ. Well, I'm not talking about that because I think that is something that will always occur by those who are able and interested in going that far, but what we are talking about, what was it, 300-some billion tons—

Mr. POTTER. 3.1 billion pounds.

Mr. SCHULTZ. 3.1 billion pounds of explosives, some of which must be finding their way into the hands of criminals. And it is unbelievable to me that from 1971 to the present time, you could only have 11 individual notifications of the theft of explosives.

Now, I understand that thefts are not required to be reported to MESA. I'm not so sure that they shouldn't be. It just seems strange that since 1971 you have been notified only 11 times of the theft of explosives—and yet MESA has the jurisdiction for health and safety and helps with the ATF regulations for 80 percent of the explosives used in this country.

There must be a better way to do it.

Mr. POTTER. When I was an inspector in the field—and that has not been too many years ago—we would hear of thefts of explosives, and we looked into it, and it would be small mine operators that were stealing from each other. They would take it to the next mine and use it. Our investigations revealed that kind of action that we made. That was long before ATF regulations, before the Coal Mine Health and Safety Act that we are presently enforcing.

I don't have any recommendations for tightening up security of explosives. Maybe I am being biased in saying this. I believe the coal mining industry does a good job of policing itself in the use of explosives.

Mr. SCHULTZ. I would have to agree with your statement, but you are talking about the use of explosives and we are talking about the control of explosives.

Mr. POTTER. I would expand on that statement to say; and the control and the use of explosives.

Mr. SCHULTZ. In other words, you really don't feel that there is any great theft of explosives from the mining industry, or a need to explain any disappearance of any great magnitude.

Mr. POTTER. Not in the coal mining industry; no, sir.

Mr. SCHULTZ. Mr. Wilson, how about you?

Mr. WILSON. I do feel that the mining industry itself is very responsible in the control of explosives. I think that they are doing as good a job as they possibly can. In particular, let's talk about the mining industry employees themselves. I don't think that they are the type of people that would be stealing explosives. They are using them all the time, sure; they would have access to them all the time. But even though the mining industry may take all of the control or exercise all of the control that it can, it is still the people that may come onto a mining property during off-hours that would be the ones that may be trying to break into magazines and storage facilities and steal explosives.

Mr. POTTER. You asked a question of Mr. Wilson a moment ago. I'd like to respond to talking about the number of man-hours that is used by MESA in the enforcement of ATF regulations, or the inspection against ATF regulations. As I said in my prepared statement, an estimated 25,000 man-hours were devoted to this last year. As we see the coal mining industry expanding its production which has been asked of the mining operations, to double production, 646 million tons last year, we see more and more of our people working to inspect against ATF regulations. Now, that amounted to about 15 man-years last year. This may become a large burden on the Mining Enforcement and Safety Administration to continue to provide this service without some form of reimbursement. Last year we issued about 118,000 notices and orders against the coal mining industry. We made something like 80,000 inspections. Again, we are required to make more inspections under our law than the metal and nonmetal people, specifically, inspect four times a year, once every 5 working days in certain mines. So our inspection program is much stricter by law than the metal and nonmetal, and therefore we have a greater number of inspectors.

Mr. SCHULTZ. 1,350, I believe you said.

Mr. POTTER. Approximately—law enforcement people. That includes supervisors, district managers, beyond office personnel, and what have you.

So this could become a burden on coal mine health and safety at some future date.

Mr. SCHULTZ. Do these inspectors carry the civil service classification of 1811?

Mr. POTTER. No, sir, we are not police type that we have power to arrest or anything like that; no, sir.

Mr. SCHULTZ. It is regulatory compliance?

Mr. POTTER. That is correct; yes, sir.



Mr. SCHULTZ. In view of the hour and your order, Mr. Chairman, that we will be allowed to submit questions in writing, I have nothing further.

The CHAIRMAN. If that's all, the subcommittee stands adjourned.

[Whereupon, at 11:50 a.m., the subcommittee recessed, subject to the call of the Chair.]

#### SUPPLEMENTAL QUESTIONS AND ANSWERS

MR. HERSCHEL H. POTTER

*Question.* In reply to a question from Mr. Schultz, you said: "We don't take down what the violations were. We don't ask our districts to provide us with the information either. I am speaking for coal. Metals may have another system. We don't ask our district managers to provide us with the number of violations or type of violations they cite for our own regulations. It is available if we need it."

From this statement, it would appear that MESA does not receive from its district managers reports which would enable it to estimate how many specific violations there were relating to the secure custody of explosives. If that is so, then would it not be accurate to conclude that MESA does not, and could not, provide such information to the Bureau of Alcohol, Tobacco and Firearms?

*Answer.* As I said in my reply, the information is available to us. We do not have all Notices and Orders concerning explosives or other violations of health and safety standards sent to our Arlington office because of the storage and handling problems. It would also be a duplication of effort, inasmuch as they are on file in each district and subdistrict office, where enforcement is directed by the district managers. It would *not be accurate* to say that MESA cannot provide the Bureau of Alcohol, Tobacco and Firearms with such information, as a running total of specific violations by section number is maintained, and each individual violation is available from the districts.

*Question.* In another reply to Mr. Schultz, you said the following: "We store very little explosives underground, not more than a 72-hour supply (corrected to 48 hours). So it is a very small amount of explosives if they are stored underground. They are not in a central magazine. It would be in a small section magazine, which may be 3 or 4 boxes of explosives at that location, plus a separate box for detonators. There is not a large amount of explosives stored in underground coal mines."

Would you not agree that the fact that underground magazines rarely contain more than 3 or 4 boxes of explosives isn't any reason for complacency? A box of explosives could make a lot of terrorist bombs, couldn't it? And even a half dozen sticks of dynamite could make a pretty powerful bomb?

*Answer.* We do agree, that because underground magazines seldom contain more than 3 or 4 boxes of explosives, we should not be complacent, and only one stick from a box of explosives makes a pretty powerful bomb.

*Question.* From a purely theoretical standpoint, isn't it conceivable that the underground magazines in our nationwide mining operations may constitute the weakest link in the control of explosives—first, because, as was pointed out, the mining industry consumed over 80% of the 3.1 billion pounds of explosives manufactured in the United States in 1975; second, because of the many thousands of workers who have more or less unrestricted access to the underground magazines; third because of the nonexistence of any effective control procedures in the underground magazines?

*Answer.* Eighty percent of the 3.1 billion pounds of explosives manufactured in the United States in 1975 included ANFO which is not used in underground coal mines. The total amount of explosives consumed by underground mining was 42 million pounds of permissible explosives used in coal.

We do not agree that underground storage of explosives is our weakest link. First of all, they are transported underground by a designated person and, after being placed in the section magazine, they are handled only by a designated person under direct supervision. The amount used must be checked at the end of each shift to ascertain that the following shift will have an adequate supply. Also, the underground supervisor reports to the foreman who has overall charge of the mine, the number of working places in which coal has been blasted down during

his shift. Blasting or the amount of explosives used is determined by the desired results in a fall of coal. So, performance—in a way—is a method of accounting for explosives.

*Question.* Mr. Potter, in your testimony you made this statement about the custody of explosives: "There is no one physically, to the best of my knowledge, and no one physically at the surface magazines on an 8-hour shift or around the clock or anything like that. The crew that does the blasting will have the keys to the surface magazine and they will move the explosive materials."

This would mean that in a large mine there may be many crews that have keys to the main magazine, would it not? Could you tell us whether the keys to the magazines are used by only one member of each crew, or whether there may be several members of a single underground crew who use the keys to the magazine on different occasions? In a large mine, as a rough estimate, approximately how many men would have keys that give them access to the explosive magazines?

*Answer.* Neither MESA nor ATF has regulations governing the custody of explosives. The practice of how explosives are distributed varies in the coal mining industry. However, we believe that it is fair to say that there would be very few people having access to the keys of the surface explosives storage facilities, even at a large coal mine. Once the explosives are taken underground to the various sections' storage magazines there are no locks on these small storage facilities. Any miner in the section of the mine would have access to these small amounts of explosives.

*Question.* Mr. Rex Davis, in his testimony before the subcommittee, quoted the following paragraph from the law governing the periodic inspections of explosives storage facilities:

"Any persons storing explosive materials shall open and inspect its storage facilities at intervals not greater than 3 days to determine whether the explosives there are intact and to determine whether there has been any unauthorized entry or attempted entry into the storage facility, or the unauthorized removal of facilities or their content."

In response to a question from Senator Scott about how these inspections were conducted, Mr. Davis said: "In my view, if the person making the inspection unlocked the door of the magazine, walked inside and looked around, and there appeared to be an amount of explosives that should be in there, and if there was no evidence of any forced entry, then he would satisfy this requirement."

Is this an accurate description of the manner in which most mines conduct their periodic inspection, and this is all that MESA requires of them?

*Answer.* MESA does not have any regulations with respect to record-keeping; however, we do inspect against ATF regulations. In accordance with their regulations, the mine operator is required to maintain and record, on a daily basis, all explosives received or removed from the storage facility and the total amount on hand at the end of the day. Any discrepancy that might indicate a theft or loss shall be reported.

In addition to the daily inventory, any person storing explosive materials shall inspect the storage facility at intervals of 3 days or less to determine that the explosives are intact and that there has been no unauthorized entry or attempted entry or unauthorized removal of its contents.

We believe that Mr. Davis' statement has been taken out of context with respect to the inventory. This statement may be construed as a lack of concern in this area. I believe that he meant to imply that the statute needs to be strengthened.

*Question.* Storage facilities are required to be inspected at intervals not greater than 3 days in order to determine unauthorized entry, attempted entry, removal, etc. What records does the mine operator have to keep to show that this requirement is met?

*Answer.* None. Part 181 of Title 26 CFR does not require recording the 3-day inspection of storage facilities and their contents.

*Question.* The record is not quite as precise as it might be on the question of what happens when your inspectors discover a violation of ATF procedures governing the storage and control of explosives. Do you then, on a routine basis, notify ATF of what measures have been taken to bring about compliance, and whether or not subsequent inspections have determined that the mine operators have abated the violation? Does ATF in some of these cases, or all of them, follow up with MESA to make certain that the violations have in fact been abated?



Answer. When our inspectors observe a violation of ATF regulations it is documented on Form 4729 in Section A and then sent to the appropriate ATF regional office. If a recall investigation becomes necessary due to the fact that compliance of the regulations was not met during our first investigation, Section B of Form 4729 is then filled out. When further action is required, ATF may take action with or without the assistance of the MESA inspector.

Question. We would like to have your comments on several paragraphs dealing with commerce in explosives taken from Part 181 of Title 26 of the Code of Federal Regulations. Section 181.127 reads:

"In taking the inventory required by (stated subsections) the inventory shall be entered in a record of daily transactions to be maintained at each magazine of an approved storage facility. At the close of business of each day each licensee and permittee shall record by class of explosive materials, as prescribed in the explosives list, the total quantity received in and removed from each magazine during the day and the total remaining on hand at the end of the day. Any discrepancy which might indicate a theft or loss of explosive materials shall be reported in accordance with the provisions (as required)."

However, when you go back to the wording of Sections 181.122 through 181.125, it becomes obvious that the inventory they are talking about *is not a daily physical inventory*. All of these sections state that an inventory shall be taken, I quote:

"As of February 12, 1971, or at the time of commencing business subsequent thereto, which shall be the effective date of the license issued . . . ; at the time of changing the location of premises to another region; at the time of discontinuing business, and at such other times as the Assistant Regional Commissioner may in writing require."

This appears to mean that the inventory called for under Section 181.27 is simply a bookkeeping inventory—that all they do is add to the book inventory for the previous day the quantity of explosives received and the quantity issued during the course of the day. Wouldn't you agree that such a book inventory is not sufficient, that there has to be a physical inventory?

Answer. Empirically speaking, I still believe the coal mining industry does a good job of policing itself in the use of explosives. Past results of the manner in which the records have been maintained does not indicate a need for a physical inventory.

Question. Circumstances will obviously vary from one installation to another—but wouldn't it be reasonable to require that manufacturers, distributors and industrial users conduct physical inventories at specified intervals? A manufacturer obviously could not be required to conduct a daily inventory—in this case it might be once a week or once a month. But it does seem that the mines, which use the bulk of explosives produced in our country, and which generally work with limited quantities in their storerooms, could be required to conduct daily inventories without imposing any undue economic hardship on them?

Answer. Generally speaking, physical inventories are conducted by those individuals responsible for the blasting operations at a mine. The number of places shot, the number of drill holes per cut, and the amount of explosives per hole is regulated by the designated shot firer who directly reports to the section supervisor, who is responsible for the entire mining operation.



## APPENDIX

[Exhibit referred to on p. 79]

### MEMORANDUM OF UNDERSTANDING BETWEEN THE DEPARTMENT OF THE TREASURY AND THE DEPARTMENT OF THE INTERIOR REGARDING TITLE XI (REGULATION OF EXPLOSIVES) OF THE ORGANIZED CRIME CONTROL ACT OF 1970

Whereas, Title XI (Regulation of Explosives) of the Organized Crime Control Act of 1970 (Public Law 91-452) establishes, effective February 12, 1971, regulatory controls over explosive materials, including storage thereof, and conditions the issuance of licenses and permits on the suitability of storage facilities; and

Whereas, the Secretary of the Treasury or his delegate is charged with the administration of Title XI of said Act, including the: (1) issuance of licenses to persons engaged in business of importing, manufacturing, and dealing in explosive materials; (2) issuance of permits to persons who rely on interstate commerce to acquire explosive materials; (3) establishment of standards for the storage of explosive materials; and (4) inspection of storage facilities of licensees and permittees; and

Whereas, the Bureau of Mines of the Department of the Interior, in administering the Federal mine safety programs, prescribes standards for the handling and storage of explosive materials for use in mining operations and periodically inspects such storage facilities; and

Whereas, in the interest of economy and efficiency it is deemed desirable to avoid unnecessary duplication of effort;

Now, therefore, it is understood and agreed between the Department of the Treasury and the Department of the Interior as follows:

1. Effective June 1, 1971, the Bureau of Mines will perform on behalf of the Alcohol, Tobacco, and Firearms Division of the Internal Revenue Service, inspections under the explosive materials standards prescribed in Part 181 of Title 26, Code of Federal Regulations, at all mines subject to the jurisdiction of the Bureau of Mines. The results of all such inspections should be promptly submitted to the Alcohol, Tobacco and Firearms Division.

2. Prior to June 1, 1971, the Bureau of Mines will prepare and submit to the Internal Revenue Service, Alcohol, Tobacco and Firearms Division, a complete list of all mines subject to the jurisdiction of the Bureau of Mines. The list shall include the location of each such mine as well as the name and address of the owner, and shall be updated periodically to include additions and deletions.

3. The Alcohol, Tobacco and Firearms Division of the Internal Revenue Service will accept the inspection of storage facilities by the Bureau of Mines as satisfying the purposes of Title XI of the Act, including the conditions imposed on license and permit applicants with respect to storage facilities for explosive materials. Further, the Alcohol, Tobacco and Firearms Division will accept the inspection by the Bureau of Mines of records maintained by persons holding licenses or permits as satisfying the purposes of Title XI of the Act.

4. The Bureau of Mines and the Alcohol, Tobacco and Firearms Division of the Internal Revenue Service will cooperate in the development of uniform standards for storage of explosive materials and, will, to the greatest extent possible, maintain liaison and cooperation with each other in regard to their respective responsibilities under the Federal mine safety programs and under Title XI of the Act and each such agency will furnish to the other all information deemed of interest to the other obtained through routine inspection or through investigation of incidents.

Approved:

EUGENE T. ROSSIDES,  
*Department of the Treasury.*

Date: May 21, 1971.

HOLLIS M. DOLE,  
*Department of the Interior.*

Date: May 17, 1971.

DEPARTMENT OF THE TREASURY,  
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS,

*May 5, 1976.*

Subject: Explosives application and compliance inspections by mining enforcement and safety administration.

1. Purpose. The purpose of this order is to provide guidelines and procedures relating to inspections of explosives licensees, permittees, and non-permittee users of explosive materials, who are subject to the jurisdiction of the Mining Enforcement and Safety Administration (MESA), formerly the Bureau of Mines, under Chapters 21 and 22, Title 30, U.S.C.

2. Scope. The provisions of this order apply to ATF Regulatory Enforcement offices. It is also being supplied to ATF special agents and MESA district and subdistrict offices for information.

3. Cancellation. Manual Supplement 62G-51 dated October 19, 1973, is cancelled.

4. Background. An agreement between the Department of the Treasury and the Department of the Interior provides that MESA will make inspections of storage facilities involving applications for licenses and permits under Chapter 40, Title 18, U.S.C., when the applicant is subject to the jurisdiction of MESA. MESA inspectors will also conduct compliance inspections in regard to storage and recordkeeping requirements of licensees and permittees under their jurisdiction as well as compliance inspections in regards to storage requirements for all operators (nonlicensee and nonpermittee) under their jurisdiction who use and store explosive materials.

5. Reciprocal agreements:

(a) *ATF:*

(1) Each ATF Regional Director will furnish to MESA District Managers in his region a list of ATF personnel and titles, and addresses and telephone numbers of the ATF regional and field offices who will provide advice or assistance to MESA. The list will be updated as necessary.

(2) Each ATF Regional Director will furnish each MESA District Manager with a supply of ATF F 5030.5, Report of Violations, and copies of applicable regulations, Industry Circulars, publications, directives and other pertinent information, for use by MESA inspectors. The Regional Director will also furnish ATF F 4712, Report of Theft or Loss of Explosive Materials, for distribution by MESA inspectors to licensees, permittees and operators using and storing explosive materials.

(3) When both the ATF Regional Director and the MESA District Manager agree that the training of MESA inspectors in storage and recordkeeping requirements would be appropriate, the ATF Regional Director will provide such training.

(4) The approving ATF office will furnish the appropriate MESA District Manager an information copy of an approved or denied request for a variance involving an operation coming under the jurisdiction of MESA. Variance information and advisory determinations issued by ATF Headquarters will be furnished to MESA headquarters if they relate to operations under the jurisdiction of MESA.

(5) If the MESA District Manager desires, the ATF Regional Director will furnish a list of Federal explosives licensees and permittees by State to the MESA District Managers in the ATF region.

(b) *MESA:*

(1) MESA will furnish ATF Headquarters (R:I:S) quarterly a list of all mines coming under the jurisdiction of MESA and a list, which will be updated as necessary, of MESA district and subdistrict offices. These lists will be distributed to ATF regional offices for use in processing applications received from applicants coming under the jurisdiction of MESA. MESA is divided into the Metal and Nonmetal Health and Safety Division and the Coal Mine Health and Safety Division.

(2) MESA will furnish to the ATF Regional Director a copy of accident investigation reports relating to accidental detonations which MESA investigates.

(3) MESA safety specifications and security requirements will govern the movement and use of explosive materials taken underground for use in mining or other operations.



6. Processing applications from applicants under the jurisdiction of MESA.

(a) *Receipt of application.*—When an application (ATF F 4705, Application for License (Explosives), or ATF F 4707, Application for Permit (Explosives), is received from an applicant who is listed as being subject to the jurisdiction of MESA, or who indicates on his application that he will be using explosives in mine or quarry operations, the ATF office will:

(1) Make two photocopies of the application.

(2) Complete ATF F 5400.1, Referral and Report of Application Inspection of Explosives Storage Facility Under Jurisdiction of MESA, in triplicate. Enter on ATF F 5400.1 both the address of the ATF regional office and a reasonable due date for return to that office to enable the processing of the application within the 45 day limit prescribed by law and regulations.

(3) Send two copies of ATF F 5400.1 and two copies of the application to the appropriate MESA District Manager for the district in which the applicant's storage facility is located for inspection by MESA. Retain one copy of ATF F 5400.1 in a suspense file in the ATF regional office.

(4) Forward the original application form to the appropriate ATF field office for inspection if derogatory or other information is developed requiring action by ATF field personnel.

(b) *MESA recommendation.*—If the storage facility of the applicant meets or exceeds the requirements of Subpart J of 27 CFR Part 181 the MESA inspector will recommend approval on ATF F 5400.1 or on a separate memorandum, and return the application and recommendation through his District Manager to the ATF regional office.

(c) *Recordkeeping and reports.*—If it appears likely that a license or permit will be issued, the MESA inspector should discuss pertinent recordkeeping and reporting requirements with the applicant, emphasizing the necessity of reporting thefts or losses of explosives.

(d) *Variance:*

(1) If, upon an application inspection, the storage facility does not meet or exceed the minimum standards as prescribed by Subpart J of 27 CFR Part 181, but is constructed substantially equivalent to such standards, the applicant may, on his own initiative or on the advice of the MESA inspector, submit a letter request for a variance, in duplicate, to the ATF Regional Director for approval.

(2) The applicant must submit his letter requesting a variance to the ATF Regional Director through the MESA inspector, who will review it and make his recommendation on ATF F 5400.1 or on a separate memorandum.

(3) The MESA inspector will then promptly forward both copies of the application (ATF F 4705 or ATF F 4707), the letter request for the variance and his recommendation to his District Manager who will retain one copy of each document and transmit the remaining documents to the appropriate ATF regional office.

(4) If the variance is approved, and the applicant is otherwise qualified, the ATF regional office will issue the license or permit and forward a copy of the variance approval to the MESA District Manager.

(5) If the variance is not approved, ATF (Regional Director or Director) will state in a letter of disapproval to the applicant why the variance cannot be granted and what alternative, if any, would be acceptable. A copy of the letter of disapproval and a photocopy of the license or permit application will be forwarded to the MESA District Manager.

(6) If, upon a compliance inspection, the surface storage facility does not meet or exceed the minimum standards as prescribed by Subpart J of 27 CFR Part 181, but is constructed substantially equivalent to such standards, the licensee, permittee or operator may on his own initiative or on the advice of the MESA inspector submit a letter request for a variance, in duplicate, to the ATF Regional Director for approval. The request for a variance will be processed in accordance with subparagraphs 6.d.(2) through (5) above.

(7) The ATF Regional Director will promptly forward to the appropriate MESA District Manager two copies of any request for a variance under 27 CFR 181.181(b) received direct from a licensee, permittee, applicant or operator subject to MESA jurisdiction. ATF F 5400.1 will be used to forward the request for variance. MESA and ATF will process the request for variance in accordance with subparagraphs 6.d.(2) through (5) above.

(e) *Withdrawal of application:*

(1) If a facility does not meet the minimum standards as prescribed by regulations, and the deficiency cannot be corrected in sufficient time to complete processing and return to the ATF regional office by the due date, the MESA inspector should advise the applicant that he may withdraw his application and reapply when the deficiency is corrected or a variance is obtained. Denial proceedings against the application will be instituted by ATF if the deficiency cannot be corrected in sufficient time to allow processing within the 45 day limit and the applicant does not withdraw his application.

(2) If the application is withdrawn there is no bar to reapplying. The application fee will be refunded if an application is withdrawn.

(3) To withdraw an application, an applicant must indicate on the face of the application or in a separate letter that he requests his application be withdrawn. The request for withdrawal must be dated and signed by the applicant.

## 7. Compliance inspections by MESA inspectors.

(a) MESA inspectors will conduct compliance inspections during their routine inspections. Storage facilities will be inspected at all mines where explosive materials are stored.

(b) In addition, MESA inspectors will inspect records of all licensees and permittees under their jurisdiction.

(c) Each compliance inspection will be reported to the ATF Regional Director. A violation or noncompliance will be documented on ATF F 5030.5, Report of Violations. This form will be prepared by the MESA inspector in quadruplicate. The MESA inspector will give the original to the licensee, permittee or operator. He will then forward the copies of ATF F 5030.5 to his District Manager who will retain a copy and forward the remaining two copies to the appropriate ATF regional office. A report showing no violations may be in any appropriate form, provided the name, address and license or permit number, if any, of the proprietor and the date of inspection are shown.

(d) Reports of violations or noncompliance will be reviewed by the ATF regional office. If further action regarding violations is required by ATF, such action may be taken with or without the assistance of the MESA inspector. The appropriate MESA District Manager should be kept informed of any action taken by ATF in this regard.

REX D. DAVIS, *Director*.

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[Exhibit referred to on p. 94]

## CFR TITLE 30—MINERAL RESOURCES

## CHAPTER 1

## SUBCHAPTER C—EXPLOSIVES AND RELATED ARTICLES; TESTS FOR PERMISSIBILITY AND SUITABILITY

PART 15—EXPLOSIVES AND RELATED ARTICLES  
SCHEDULE 1-H

Sec.	
15.1	Purpose.
15.2	Definitions.
15.3	Application for tests.
15.4	Fees.
15.5	Shipment, quantities, and sizes of explosives.
15.6	Conditions under which tests leading to issuance of a certificate of approval will be made.
15.7	Place of investigation.
15.8	Consultation.
15.9	Observers at formal investigations and demonstrations.
15.10	Chemical and physical tests.
15.11	Establishment of basic specifications.
15.12	Requirements for approval as a permissible explosive.
15.13	Notification to applicant.
15.14	Approved markings.
15.15	Changes after certification.
15.16	Withdrawal of certification.
15.17	Release of test data.

## Section

- 15.18 Lists of permissible explosives.
- 15.19 Use of permissible explosives.
- 15.20 Field testing.
- 15.21 Tolerances and requirements as applied to field samples.
- 15.22 Field sample failures.
- 15.23 Variances from prescribed tolerances.
- 15.24 Miscellaneous tests on explosives and other hazardous materials.

AUTHORITY: The provisions of this Part 15 issued under secs. 2, 3, 5, 36 Stat. 370, as amended; 30 U.S.C. 3, 5, 7.

SOURCE: The provisions of this Part 15 appear at 35 F.R. 5335, Mar. 31, 1970, unless otherwise noted.

NOTE: Nomenclature changes to this part appear at 39 FR 23998, June 28, 1974.

### § 15.2 Purpose.

The regulations in this part state the requirements for certification of explosives as permissible for use in underground coal mines; provides standards for the examination of explosives previously certified to check conformance to their basic specifications; and provide for miscellaneous tests not leading to certification.

### § 15.2 Definitions.

As used in this part, the following terms are defined:

(a) "Explosive" means any chemical compound, mixture or device, the primary or common purpose of which is to function by explosion, i.e., with substantially instantaneous release of gas and heat. This definition does not include blasting devices as defined in Part 17 of this subchapter.

(b) "Certificate of approval" means a formal document issued by MESA stating that an explosive has met the specifications and requirements in this part, and authorizing the use of markings signifying this fact, as provided hereafter.

(c) "Applicant" means an individual, partnership, company, corporation, association, or other organization that compounds, manufacturers, or controls the production of an explosive and that seeks a certificate of approval for permissibility.

(d) "Basic specifications" for an explosive that is submitted for certification means those chemical and physical properties which characterize it. They will be stated in the certificate of approval.

(e) "Poisonous gases" shall mean those gases, such as carbon monoxide, hydrogen sulfide, and oxides of nitrogen, which may have deleterious physiological effects even when present in the atmosphere in relatively low concentrations.

(f) "Ingredients" are substances specified or found to be present in any given sample of an explosive.

(g) "Test detonator" is a detonator containing a base charge of  $0.25 \pm 0.02$  gram of pentaerythritol tetranitrate (PETN).

(h) "Bureau" means the United States Department of the Interior, Bureau of Mines.

(i) "MESA" means the United States Department of the Interior, Mining Enforcement and Safety Administration.

[35 FR 5335, Mar. 31, 1970, as amended at 39 FR 23998, June 28, 1974]

### § 15.3 Application for tests.

Before an applicant may obtain any tests by MESA on an explosive, the applicant must file a written request, in duplicate (no application form is provided by MESA), with a statement as to the nature of the explosive to be tested, including the composition. This request should be addressed to Approval and Testing, Pittsburgh Technical Support Center, 4800 Forbes Avenue, Pittsburgh, Pennsylvania 15213. MESA will review the application to determine whether the request is within the scope of this part. If the application is approved, an application number will be assigned and instructions given regarding the fees required and method of shipment of materials. Upon receipt of this information, the applicant shall transmit to the address given in this section a check, bank draft, or money order made payable to MESA, to cover all fees for the tests requested.

### § 15.4 Fees.

(a) The fee for complete tests leading to approval of an explosive as permissible is \$1,320. If the applicant withdraws an explosive, or if the explosive fails to pass



any of the tests prescribed in this part, MESA will charge for the tests actually performed, with a minimum charge of \$100 according to the charges stated in paragraph (b) of this section. The balance of the fees will be returned to the applicant.

(b) The fees covering individual and complete (total) tests are revised to read as follows:

	Individual test	Total
I. Complete permissibility test.....		\$1, 320
(i) Friction.....	\$22	22
(ii) Physical examination.....	22	77
(iii) Chemical analysis.....	110	110
(iv) Gap.....	22	22
(v) Ballistic mortar.....	44	44
(vi) Gallery test 4.....	33	330
(vii) Gallery test 7.....	550	550
(viii) Rate of detonation.....	55	55
(ix) Gaseous products.....	110	110
(x) For other tests or additional work, the costs as determined by MESA based on an estimate of the actual cost of the test. The Bureau will notify the applicant accordingly, and the fee shall be paid before such tests are begun.		

(c) If no experimental tests are required, the fee for issuance of a revised certificate of approval will be \$25.

### § 15.5 Shipment, quantities, and sizes of explosives.

Samples of explosives to be tested shall be shipped only after MESA has furnished instructions regarding the quantities of materials required, mode of shipment of the materials, and destination. Shipments shall be properly labeled and shall comply with the Interstate Commerce Commission regulations. The minimum quantities and sizes required for complete official tests are as follows:

(a) One hundred pounds of each explosive in 1¼ by 8-inch cartridges, but if the cartridge count per 50-pound case is less than 150 cartridges, then 300 cartridges is the minimum quantity required.

(b) Fifty cartridges of 8-inch length of each explosive in the smallest diameter (not less than 1 inch) in which it is desired the explosive shall be certified as permissible, except when this smallest diameter is 1¼ inches.

(c) Ten cartridges of 8-inch length of each explosive in any diameter other than those described in paragraphs (a) and (b) of this section, for which application is made to determine the permissibility of the explosive.

(d) Should the applicant later desire to market cartridges of other diameters, MESA will, upon application, establish the basic specifications for grams of wrapper and apparent specific gravity of these diameters. A fee (§ 15.4(b)(2)) will be charged for each cartridge diameter. If the cartridge diameter is smaller than the smallest diameter previously approved as permissible, a propagation test (rate of detonation) will also be required and a fee charged for such test (§ 15.4(b)(8)). No test will be made on cartridges of a diameter smaller than ones along which detonation has failed to propagate, nor will a retest be made on same-diameter cartridges of a formulation for which detonation has failed to propagate in any one trial.

### § 15.6 Conditions under which tests leading to issuance of a certificate of approval will be made.

(a) The explosive will be stored in a MESA magazine for at least 30 days before the gallery tests are made.

(b) Explosives containing incompatibles (that is substances that will react when mixed); or those containing either chlorites, chlorates, or perchlorates; or other explosives that are chemically unstable; or show leakage of explosive oil, or are in such condition that exudation of the explosive oil would occur in handling or transporting, will not be tested.

(c) Tests will be limited to samples of explosives which are produced under the control of the applicant.

(d) Explosives with cartridge diameters of less than 1 inch will not be tested for certification.

(e) No report on the results of tests made by MESA, or any part thereof, may be published without prior written consent of MESA.



### § 15.7 Place of investigation.

Tests on explosives will be made at the Bureau's facilities at Bruceton, Pa., in order of receipt of the explosives, provided an application is on file.

### § 15.8 Consultation.

Any potential applicant (or accredited representative thereof) may visit Approval and Testing, Pittsburgh Technical Support Center, 4800 Forbes Avenue, Pittsburgh, Pennsylvania 15213, to discuss, without charge, explosives proposed to be submitted for investigation by MESA. Should preliminary tests be desirable before submitting the explosive for formal investigation, MESA may conduct such tests for the applicant after payment of the fees prescribed in § 15.4. The results from such preliminary tests may not be used to reduce the requirements of the formal investigation.

### § 15.9 Observers at formal investigations and demonstrations.

No one shall be present during any part of the formal investigation for permissibility conducted by MESA except the necessary Government personnel, representatives of the applicant, and such other persons as may be mutually agreed upon by the applicant and by MESA. After the issuance of a certificate of approval, MESA may conduct such public demonstrations and tests of the approved explosive as it sees fit. Those who attend any part of the investigation, or any public demonstration, shall be present solely as observers; the conduct of the investigation and of any public demonstration shall be controlled by MESA. Results of chemical analysis for ingredients and all information contained in the drawings, specifications, and instructions shall be deemed proprietary and their disclosure will be appropriately safeguarded by MESA.

[39 FR 23998, June 28, 1974]

### § 15.10 Chemical and physical tests.

(a) *Chemical tests.* The following chemical tests will be made:

(1) Chemical analysis for ingredients.

(2) Gaseous products of detonation will be determined using the Bichel gage for carbon monoxide and Crawshaw-Jones method for oxides of nitrogen.

(b) *Physical tests.* The following physical tests will be made:

(1) *Physical examination.* The physical examination of an explosive is made on several cartridges of each size taken at random from the shipment of explosives. It shall consist of determination of apparent specific gravity and wrapper-to-explosive ratio.

(2) *Ballistic mortar test.* The strength of an explosive will be determined by the ballistic mortar.

(3) *Gallery test 4.* Ten trials, each with a 1½-pound tamped charge of explosive, are made. Each charge is fired, without stemming, into a mixture of natural gas and air containing  $4.0 \pm 0.2$  percent of Pittsburgh natural gas (Bruceton property), or its equivalent, and 8 pounds of bituminous coal dust placed on shelves in the gallery, at  $25^\circ \pm 5^\circ$  C.

(4) *Gallery test 7.* The  $W_{50}$  (weight for 50 percent probability of ignition) will be determined using the Bruceton up-and-down method and firing a minimum of 20 tamped charges of varying weights, stemmed with one pound of dry-milled plastic fireclay, from a steel cannon into a mixture of natural gas and air containing  $8.0 \pm 0.3$  percent of Pittsburgh natural gas, at a temperature of  $25^\circ \pm 5^\circ$  C.

(5) *Rate of detonation.* The rate of detonation is determined on a 50-inch column of 1¼-inch diameter cartridges and for the smallest diameter submitted for testing, provided that this diameter is less than 1¼ inches. Nongelatinous explosives are initiated with the Bureau's test detonator only, while gelatinous explosives are initiated with the Bureau's test detonator and a 60-gram tetrapellet booster.

(6) *Pendulum friction test.* Ten trials are made with the steel shoe released from a height of 1.5 meters (59 in.) and if evidence of sensitivity is obtained, the test is repeated with the hard-fiber-faced shoe.

(7) *Explosion-by-influence test.* The air-gap sensitivity is determined by the halved-cartridge method on 1¼-inch diameter cartridges.

### § 15.11 Establishment of basic specifications.

The composition of the explosive as furnished by the applicant, will form a part of the basic specifications provided that the requirements of §§ 15.12(a) and 15.21(b) are met. Such physical properties of the explosive as may be furnished by the applicant will form a part of the basic specifications, provided that the require-

ments of § 15.21 are met with the exception of the air-gap sensitivity, in which case the requirement of § 15.12(c) must be met; otherwise the basic specifications will be those obtained by MESA tests.

#### **§ 15.12 Requirements for approval as a permissible explosive.**

(a) The chemical composition as determined by MESA's analysis must correspond, within tolerances specified in § 15.21(b), to the composition as furnished by the applicant.

(b) The explosive must not fail to propagate completely in any of the tests involving detonation, except as provided in paragraph (g) of this section.

(c) In the explosion-by-influence test the air-gap sensitivity of the explosive in 1¼-inch diameter cartridges must be at least 3 inches.

(d) The explosive must yield in gallery test 7, a  $W^{50}$  value equal to or greater than 450 grams to 95 percent confidence.

(e) The explosive must pass without a single ignition, gallery test 4.

(f) The volume of poisonous gases produced by the explosive must not exceed 2.5 cubic feet per pound of explosive (71 liters per 454 grams).

(g) If an explosive fails to propagate completely in the rate of detonation test (§ 15.10(b)(5)), it will not be approved for cartridges having a diameter equal to or smaller than that of the cartridge that failed the test.

(h) In the pendulum friction test, an explosive must not show, in any trial with the hard fiber-faced shoe, a result more unfavorable than an almost indistinguishable local crackling.

#### **§ 15.13 Notification to applicant.**

After MESA has completed the investigation of an explosive, a written report summarizing the results of the investigation and including a statement of either approval or disapproval of the explosive as permissible will be sent to the applicant.

#### **§ 15.14 Approved markings.**

(a) Upon certification of an explosive as permissible, it shall be marketed only under a brand or trade name which shall have been furnished to MESA, and the certification shall apply only to the explosive as so designated.

(b) The wrapper of each cartridge must be clearly and legibly labeled:

(Insert brand or trade name of explosive) Permissible Explosive, Approved by the U.S. Department of the Interior, MESA. A reasonable abbreviation of "by the U.S. Department of the Interior, MESA" is acceptable.

(c) The brand or trade name and the words "Permissible Explosive" must be included in the case marking.

(d) The applicant must warn the user by means of a case-insert that the explosive is permissible only when used in conformance with MESA's requirements (§ 15.19).

(e) After obtaining certification, the applicant who places approved markings on his permissible explosives must use all reasonable precautions to assure that his explosives are manufactured to conform with the basic specifications within specified tolerances.

#### **§ 15.15 Changes after certification.**

No change in the basic specifications may be made by the applicant without prior written approval from MESA. To obtain this approval, application shall be made in writing giving complete information on the nature of the proposed change(s). MESA will determine what tests, if any, will be required. A fee will be charged for such tests. Once a change in basic specifications involving composition has been approved, the brand name may only be used for the new composition, and the former composition may not be manufactured as a permissible explosive until it has been reapproved under the provisions of this part.

#### **§ 15.16 Withdrawal of certification.**

MESA reserves the right to rescind for cause, at any time, any certification granted under this part. Upon such withdrawal, the certification shall lose all force and effect, and explosives to which it relates shall not be marketed as permissible.

#### **§ 15.17 Release of test data.**

MESA may publish test results in such manner as will not identify the data except cartridge weight, count, and detonation velocity, of an individual applicant.

### § 15.18 Lists of permissible explosives.

(a) *Active list.* MESA will maintain a list of active permissible explosives which will be published from time to time so that interested parties may have information regarding available explosives which have passed the tests leading to approval. In order to be retained on the active list, any explosive must be produced in a total quantity of not less than 50,000 pounds in any period of 3 calendar years. This requirement shall become effective on January 1 following the publication of these regulations in the Federal Register. The applicant will be notified of MESA's intent to remove any brand from the active list. An applicant may request that a permissible explosive be placed on the inactive list, or be deleted entirely.

(b) *Inactive list.* MESA will maintain an unpublished file of inactive permissible explosives. These explosives will be retained on the inactive list for a period not to exceed 5 years and will be returned to the active list during this period only after approval by MESA on specific written request of the applicant. An explosive may be deleted from the inactive list upon written request of the applicant. An explosive may not be manufactured for sale as a permissible explosive while on the inactive list.

### § 15.19 Use of permissible explosives.

An explosive certified as permissible under this part is permissible in use only so long as it meets the following requirements:

(a) Conforms with the basic specifications within limits of tolerances prescribed herein, and the cartridges are of diameters that have been approved.

(b) Is stored in surface magazines under conditions that tend to maintain original product character, and is used within 48 hours after being taken underground.

(c) Remains in its original cartridge wrapper throughout storage and use, without admixture with other substances.

(d) Is initiated with a copper or copper-based-alloy shell, commercial electric detonator (not cap and fuse) of not less than No. 6 strength.

(e) Is in all other respects used in conformance with the regulations specified in the most recent edition of the applicable Federal Mine Safety Code.

### § 15.20 Field testing.

MESA will periodically collect and examine samples of permissible explosives in order to determine whether they continue to conform to the basic specifications.

### § 15.21 Tolerances and requirements as applied to field samples.

Tolerances which provide for reasonable limits of variation in the results of analyses and tests of field samples of permissible explosives were established July 1, 1915, subsequently amended November 15, 1920, February 26, 1921, and March 24, 1955, and are further modified in this section. The tolerances and requirements as enumerated below supersede all previous tolerances.

(a) Requirements for tests that directly affect permissibility.

(1) *Gallery test 7.* The sample must yield in gallery test 7, as a  $W_{50}$  value equal to or greater than 450 grams to 95 percent confidence. (For exception see § 15.22 (a)).

(2) *Gallery test 1.* Field samples failing Gallery test 7 but excepted under § 15.22(a) will be subjected to Gallery test 1. In this test, 10 trials, each with a 220-gram tamped charge of the explosive, are made. Each charge, stemmed with 1 pound of dry-milled plastic fireclay, is fired from a steel cannon into a mixture of natural gas and air containing  $8.0 \pm 0.3$  percent of Pittsburgh natural gas, at a temperature of  $25^\circ \pm 5^\circ$  C. No ignitions must result.

(3) *Gallery test 4.* The sample must pass five shots with a tamped unstemmed charge of 680 grams ( $1\frac{1}{2}$  pounds).

(4) *Pendulum friction test.* The sample must pass the pendulum friction test with a hard-fiber-faced shoe released from a height of 1.5 meters (59 inches).

(5) *Poisonous gases.* Poisonous gases produced must not exceed 2.5 cu. ft. per pound of the explosive (71 liters per 454 grams).

(6) *Propagation test.* Complete propagation of the explosive must be obtained in the rate of detonation test.

(b) Requirements for tests that do not directly affect permissibility.

(1) *Carbonaceous combustible material.* The tolerance shall be  $\pm 3$  percent of the total explosive.

(2) *Moisture and other ingredients.* The tolerances shall be in accordance with those shown in Table 1.



TABLE 1.—LIMIT OF VARIATION (PERCENTAGE OF TOTAL EXPLOSIVE) FOR VARIOUS QUANTITIES OF INGREDIENT

[All figures in percent]

Quantity of ingredient		Limit of variation
From—	To—	
0.0.....	5.0	1.2
5.1.....	10.0	1.5
10.1.....	20.0	1.7
20.1.....	30.0	2.0
30.1.....	40.0	2.3
40.1.....	50.0	2.5
50.1.....	55.0	2.8
55.1.....	100.0	3.0

(3) *Rate of detonation.* The tolerance shall be  $\pm 15$  percent of that shown in the basic specifications.

(4) *Ballistic mortar.* The tolerance shall be  $\pm 10$  percent of that shown in the basic specifications.

(5) *Explosion by influence test.* The air-gap sensitivity, using 1¼-inch-diameter cartridges, must be not less than 2 inches.

(6) *Grams of wrapper.* The tolerance shall be  $\pm 2$  grams per 100 grams of explosives ingredient based on that shown in the basic specifications.

(7) *Apparent specific gravity.* The tolerance shall be  $\pm 7.5$  percent of that shown in the basic specifications.

#### § 15.22 Field sample failures.

(a) Any field sample will be declared nonpermissible if when tested it fails to meet any of the requirements of § 15.21 (a): *Provided however*, That, for a period of 5 years following the issuance of this schedule, the requirement of § 15.21(a)(1) shall not apply to any field sample whose basic specifications were approved under prior schedules.

(b) MESA will immediately report any field sample failure to the applicant. The applicant must immediately remove from the market and the field any unused portions of the explosive bearing the same lot number as the sample tested. If a field sample of any particular brand of permissible explosive fails three times within a period of 5 years, the explosive will be declared nonpermissible and removed from the lists of permissible explosives.

#### § 15.23 Variances from prescribed tolerances.

Variances on field sample tests from tolerances as specified in § 15.21(b) do not directly affect permissibility of the explosive, but the applicant will be notified of such variances, and is then obligated to modify his formulation of future lots of the explosive to bring the explosive within the prescribed limits and to keep it within such limits.

#### § 15.24 Miscellaneous tests on explosives and other hazardous materials.

(a) MESA conducts some tests not leading directly to approval of explosives as permissible for use in underground coal mines. Fees for these tests will be prescribed in § 15.4 and as prescribed below:

(1) Impact test.....	\$33
(2) Electrostatic spark test.....	22
(3) Thermal sensitivity test.....	33
(4) Suspended tests in the gallery (per shot).....	11
(5) Gaseous products:	
i. Oxides of nitrogen only.....	77
ii. Complete analysis of gaseous products, including oxides of nitrogen.....	110

(b) Application for miscellaneous tests shall follow the procedure prescribed in § 15.3. Applicants requesting tests shall follow the instructions under § 15.5. The applicant will be notified by MESA as to the quantity of material needed. No report on the results of tests made by MESA, or any part thereof, may be published without prior written consent of MESA.



Section 15.19 of Part 15 deals with the use of permissible explosives, and paragraph (e) of that section incorporates the "regulations specified in the most recent edition of the applicable Federal Mine Safety Code." Except for provisions which impose requirements now expressly dealt with in, or which are inconsistent with, the Federal Coal Mine Health and Safety Act of 1969, these regulations are as follows:

## BITUMINOUS COAL AND LIGNITE UNDERGROUND MINES

### ARTICLE IV—EXPLOSIVES AND BLASTING

\* \* \* \* \*

#### SEC. 5. *Blasting practices.* \* \* \*

b. \* \* \*

3. Where the coal is cut, shots shall not be fired if the blast hole is drilled beyond the limits of the cut.

4. Boreholes shall be cleaned, and they shall be checked to see that they are placed properly and are of correct depth, in relation to the cut, before being charged.

5. All blasting charges in coal shall have a burden of at least 18 inches in all directions if the height of the coal permits.

6. Boreholes shall be stemmed with at least 24 inches of incombustible material, or at least one-half of the length of the hole shall be stemmed if the hole is less than 4 feet in depth unless other permissible stemming devices or methods are used.

\* \* \* \* \*

9. Charges exceeding 1½ pounds, but not exceeding 3 pounds, shall be used only if boreholes are 6 feet or more in depth, the explosives are charged in a continuous train, with no cartridges deliberately deformed or crushed, with all cartridges in contact with each other and with the end cartridge touching the back of the hole and the stemming respectively, and Class A or Class B permissible explosives are used; provided, however, that the 3-pound limit does not apply to solid rock work.

10. Shots shall be fired by certified shot firers wherever State law requires such certification. In mines where certification of shot firers is not required by State law, the management shall designate competent persons to fire shots.

11. Boreholes shall not be charged while any other work is being done at the face, and the shot or shots shall be fired before any other work is done in the zone of danger from blasting except that which is necessary to safeguard the employees.

12. Only nonmetallic tamping bars shall be used for charging and tamping boreholes. This does not prohibit the use of a nonmetallic tamping bar with a nonsparking metallic scraper on one end.

13. The leg wires of electric detonators shall be kept shunted until ready to connect to the firing cable.

14. Shots shall not be fired from the power or signal circuit while any men are in the mine.

15. The roof and ribs of working places shall be tested before and after firing each shot or group of multiple shots.

16. Ample warning shall be given before shots are fired, and care shall be taken to ascertain that all persons are in the clear. Men shall be removed from adjoining working places when there is danger of a shot blowing through.

17. Mixed types or brands of explosives shall not be charged or fired in any borehole.

\* \* \* \* \*

#### SEC. 6. *Blasting cables.* a. Blasting cables shall be:

1. Well insulated and as long as may be necessary to permit the shot firer to get in a safe place around a corner.

2. Short-circuited at the battery end until ready to attach to the blasting unit.

3. Staggered as to length or the ends kept well separated when attached to the detonator leg wires.

4. Kept clear of power wires and all other possible sources of active or stray electric current.

SEC. 7. *Misfires.* a. Where misfires occur with electric detonators, a waiting period of at least 5 minutes shall elapse before anyone returns to the shot. After such failure, the blasting cable shall be disconnected from the source of power and the battery ends shortcircuited before electric connections are examined.

b. Explosives shall be removed by firing a separate charge at least 2 feet away from, and parallel to, the misfired charge or by washing the stemming and the charge from the borehole with water, or by inserting and firing a new primer after the stemming has been washed out.

c. A very careful search of the working place, and, if necessary, of the coal after it reaches the tippie shall be made after blasting a misfired hole, to recover any undetonated explosive.

d. The handling of a misfired shot shall be under the direct supervision of the mine foreman or a competent person designated by him.

## ANTHRACITE UNDERGROUND MINES

### ARTICLE IV—EXPLOSIVES AND BLASTING

\* \* \* \* \*

#### SEC. 4. *Blasting practices.* \* \* \*

b. \* \* \*

2. Boreholes shall be cleaned, and they shall be checked by the miner in charge to see that they are placed properly before being charged.

3. Boreholes shall be stemmed with at least 24 inches of material, or at least one-half of the length of the hole shall be stemmed if the hole is less than 4 feet in depth or suitable blasting plugs shall be used.

\* \* \* \* \*

6. Shots shall be fired by certified persons in charge.

7. Boreholes shall not be charged while any other work is being done at the face, and the shot or shots shall be fired before any other work is done in the zone of danger from blasting except that which is necessary to safeguard the employees.

8. Only nonmetallic tamping bars shall be used for charging and tamping boreholes.

9. The leg wires of electric detonators shall be kept shunted until ready to connect to the firing cable.

10. Shots shall not be fired from any power or signal circuit while any men are in the section of the mine in which such shots are fired.

11. The roof and faces of working places shall be tested before and, where possible, after firing each shot or group of multiple shots.

12. Ample warning shall be given before shots are fired, and care shall be taken to ascertain that all persons are in the clear. Men shall be removed from adjoining working places when there is danger of a shot blowing through.

13. Mixed types of explosives shall not be charged or fired in any borehole, nor shall detonators made by different manufacturers be combined in the same blasting circuit.

\* \* \* \* \*

15. Workmen shall never go inside a battery to start the flow of material.

16. Power wires and cables that could contact blasting cables or leg wires shall be deenergized during charging and firing.

#### SEC. 5. *Blasting cables.* a. Blasting cables shall be:

1. Well insulated and as long as may be necessary to permit the person firing the blast to get in a safe place.

2. Short-circuited at the battery end until ready to attach to the blasting unit.

3. Staggered as to length or the ends kept well separated when attached to the detonator leg wires.

4. Kept clear of power wires and all other possible sources of active or stray electric currents.

SEC. 6. *Misfires.* a. Where misfires occur with electric detonators, a waiting period of at least 30 minutes shall elapse before anyone returns to the shot. After such failure, the blasting cable shall be disconnected from the source of power and the battery ends short-circuited before electric connections are examined.

b. Explosives shall be removed by firing a separate charge at least 2 feet away from, and parallel to, the misfired charge.

c. A very careful search of the working place, and, if necessary, of the coal after it reaches the tippie, shall be made after blasting a misfired hole to recover any undetonated explosive.

d. The handling of a misfired shot shall be under the direct supervision of the miner in charge.

## [EXHIBITS REFERRED TO ON P. 88]

MARTIN MARIETTA AGGREGATES - Southeast Division  
Explosives Withdrawal Report

QUARRY CharlotteDate 9-17-76USE E.I. DepotBy Edwin Abernathy

Pounds or Units	Manufactured by	Description
A350	Dupont	Towex 2 $\frac{1}{4}$ " x 16 ✓
30	"	Hi Drive 1 $\frac{1}{4}$ " x 8 ✓
HH50	"	and/or ✓
605	"	Deltaprime

## Caps Withdrawal Report

Manufactured by

Inst. Delay		#1 Delay		#2 Delay		#3 Delay		#4 Delay		#5 Delay	
Qty.	Length	Qty.	Length	Qty.	Length	Qty.	Length	Qty.	Length	Qty.	Length
2	50	5	50	9	50	11	50	12	50	9	50
		5	16	9	16	11	16	12	16	9	16
#6 Delay		#7 Delay		#8 Delay		#9 Delay		#10 Delay		#11 Delay	
Qty.	Length	Qty.	Length	Qty.	Length	Qty.	Length	Qty.	Length	Qty.	Length
8	50	3	50	1	50						
8	16	3	16	1	16						
#12 Delay		#13 Delay		# Delay		# Delay		# Delay		# Delay	
Qty.	Length	Qty.	Length	Qty.	Length	Qty.	Length	Qty.	Length	Qty.	Length

Form #101

## MARTIN MARIETTA AGGREGATES

Charlotte 18 BLASTING REPORT

Date of Blast Sept 17, 76

Time of Day: A.M.; 3:45 P.M.

Weather at Time Blast Fired: Clear; Low Clouds; High Clouds ☒; Raining; Direction of Wind

Location of Blast in Pit Including Bench Number and location on bench middle east wall second bench

If Seismograph Used advise what machine was set up and who operated it.

## TYPE OF BLAST

	Wall	Leveling	Sinking	Toe
No. Holes Vertical	60			
Sloped				
Size Holes	3 1/2			
Depth Holes	45 to 50			
Depth Sub-Drilling	5'			
Stemming	8 to 10			
Spacing	9 x 10			
Number Rows	5			

ELECTRIC FIRING: Instantaneous Blast; Delay Blast ☒; No. Delay Periods in Blast

Number of Series in Blast 5; Total Caps Used 116

Number holes primed with Regular EB Caps	2	Total Pounds Explosive Used	294
Number holes primed with No. 1 (MS25) Caps	5	Total Pounds Explosive Used	735
Number holes primed with No. 2 (MS50) Caps	8	Total Pounds Explosive Used	1253
Number holes primed with No. 3 (MS75) Caps	11	Total Pounds Explosive Used	1617
Number holes primed with No. 4 (MS100) Caps	14	Total Pounds Explosive Used	1764
Number holes primed with No. 5 (MS125) Caps	17	Total Pounds Explosive Used	1401
Number holes primed with No. 6 (MS150) Caps	2	Total Pounds Explosive Used	1168
Number holes primed with No. 7 (MS175) Caps	1	Total Pounds Explosive Used	1111
Number holes primed with No. 8 (MS200) Caps		Total Pounds Explosive Used	157
Number holes primed with No. 9 (MS250) Caps		Total Pounds Explosive Used	
Number holes primed with No. 10 (MS300) Caps		Total Pounds Explosive Used	
Number holes primed with No. 11 (MS350) Caps		Total Pounds Explosive Used	
Number holes primed with No. 12 (MS400) Caps		Total Pounds Explosive Used	
Number holes primed with No. 13 (MS450) Caps		Total Pounds Explosive Used	
Number holes primed with No. 14 (MS500) Caps		Total Pounds Explosive Used	8830



PRIMA-CORD FIRING: Use reverse side for details concerning TYPE OF BLAST.

Delay Blast: Yes.....; No.....

Periods of Delay Used:.....; Total Delay Periods Used.....

Number holes in period containing maximum amount of explosives fired together.....;

Maximum pounds explosives fired together.....; Total pounds explosives fired in blast.....

Trunk-line Used: Yes.....; No..... If yes, was trunk-line covered? Yes.....; No.....

Down-line primed with caps: Yes.....; No..... If yes, were down-line and caps covered?  
Yes.....; No.....

Pop Shots: Electric Firing.....; Number Fired.....; Pounds Explosives Used.....

Fuse and Cap: Number fired.....; Approximate number per round.....;

Total Pounds explosives used.....

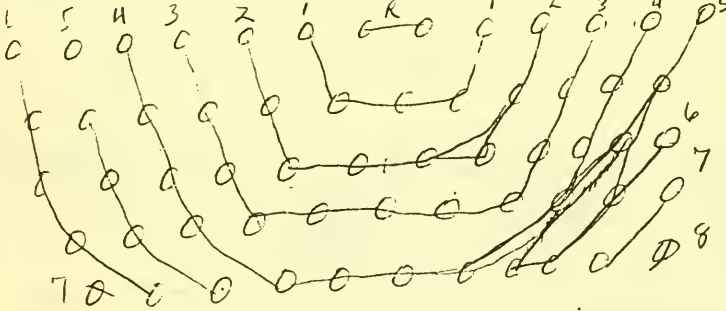
TYPE OF EXPLOSIVES USED

Cartridge			Free Running	
Type	Size	Pounds	Type	Pounds
Tail	2 3/4 x 16	11350	airfo	4450
1/2 Line	1 1/4 x 8	30		
2.5 Tail line	605			

Total 4380

Total 4450

Diagram of Blast and Delay Pattern — Circle "Trouble" holes and comment on nature of trouble

Ed Abernathy  
Powder ManMarkel Beckwith  
Superintendent

s: 1% Ten Days, 30 Days Net From  
of Invoice. A Finance Charge Is  
d To Accounts 30 Days Or More  
Due, Computed At A "Periodic"  
Of 1½% Per Month (Or Any Port-  
thereof; Minimum Charge 50 Cents).  
1 Is An Annual Percentage Rate Of

# CAROLINA EXPLOSIVES, Inc.

P. O. BOX 538  
SALISBURY, N. C. 28144

DELIVERY TICKET

No. 266



GEORGE E. (EO.) LUDWICK OFFICE PH. 933-3802

## EXPLOSIVES DISTRIBUTOR

SHIP TO Martin Marietta

DATE 9-21-76

ADDRESS Charlotte

CUSTOMERS P.O. # 18-43202

BILL TO W. C. Smith & Co.

DELIVERED BY \_\_\_\_\_

TRUCK UNIT \_\_\_\_\_

## ROUTE

NO. PKGS.	TYPE PKG.	QUANTITY	PRODUCT DESCRIPTION	UNIT PRICE	PER	AMOUNT-
510	50	46,100	Grade P			
			100 Lb. bag			
		15,000	Tram. Inst. 2 1/2 x 16			
			100 Lb. bag			
		50	60FT. F.R. Caps #1			
		50	#2			
		50	#3			
		50	#4			
		50	#5			
		50	#6			
		50	#7			
		50	#8			
		50	#9			
		50	#10			
		100	16 FT. F.R. Caps. Inst.			

DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	COM- MODITY CODE	DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	COM- MODITY CODE	DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	COM- MODITY CODE	DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS
High Explosives (N.G.J.E.N.) Class A Explosives	5	Propellant Explosives (Solid) Class B	9	Electric Blasting Caps—More Than 1000 Class A Explosives	13	Loading Poles
Nitro Carbo Nitrate Oxidizing Material—No Label Required	6	Black Powder Class A Explosives	10	Blasting Caps—1000 or Less Class C Explosives	14	
Nitro Carbo Nitrate Oxidizing Material	7	Safety Fuse	11	Blasting Caps—More Than 1000 Class A Explosives	15	
Ammonium Nitrate Oxidizing Material	8	Electric Blasting Caps—1000 or Less Class C Explosives	12	Cordless Detonant Fuse (Safety Fuse) Class C Explosives	16	

This is to certify that the above named articles are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

CAROLINA EXPLOSIVES, Inc.

RECEIVED BY [Signature]

Form A-15


**EXPLOSIVES INVENTORY**

TO: ACCOUNTING DEPARTMENT

FROM: QUARRY Charlotte NO. 18INVENTORY TAKEN BY: Ed Abernathy DATE TAKEN Sept. 30, 1976FORM PREPARED BY: Jerry W. Moss APPROVED BY: Noble B. BlackwellTOTAL VALUE OF EXPLOSIVES ON HAND: \$ 9,077.87

REMARKS:

## \*\*\* IMPORTANT REMINDER \*\*\*

1. Attach receiving reports, which have not been forwarded to Accounts Payable Section, for explosives included in inventory.
  2. This report should be mailed no later than the end of the first work day of the month.
- 

[Exhibit referred to on p.83]

The number of citations of AFT regulations for calendar years 1973, 1974 and 1975: 1973—221; 1974—69; 1975—353

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A BREAKDOWN, BY SECTION NUMBER, OF THE VIOLATIONS OF AFT REGULATIONS FOR THE SAME PERIOD

Section No.	1973	1974	1975
181.29	7	2	1
181.95	0	0	1
181.103	1	0	0
181.123	2	0	0
181.125	0	0	1
181.127	26	8	5
181.141	0	0	1
181.181	2	4	24
181.183	2	0	1
181.184	0	0	29
181.185	1	2	1
181.186	9	10	9
181.187	35	13	65
181.188	56	14	98
181.189	0	1	0
181.190	16	4	2
181.191	5	1	48
181.192	3	2	3
181.193	1	0	2
181.194	4	0	12
181.195	28	8	42
181.197	2	0	0
181.198	18	0	6
181.199	3	0	0
181.200	0	0	2

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[Exhibits referred to on p. 92.]

*Violations cited as a result of ATF inspections, 1974 through May 1976*

<i>Metal and nonmetal districts:</i>	<i>Number violations cited</i>
Pittsburgh.....	374
Birmingham.....	297
Duluth.....	153
Dallas.....	544
Denver.....	79
Alameda.....	163
All districts.....	1,610

## EXPLOSIVE STANDARDS MOST FREQUENTLY CITED AS REASONS FOR NOTICES

Explosive standards <sup>1</sup>	Number of notices issued—		
	Calendar year 1974	Calendar year 1975	January 1976– April 1976
6-20.....	1,130	1,271	410
6-5.....	227	427	103
6-47.....	187	193	73
6-1.....	176	193	52
6-92.....	144	154	42
6-42.....	114	150	55
6-43.....	104	157	53
6-8.....	63	50	17
6-40.....	48	82	16
6-103.....	45	58	16
6-120.....	45	23	12
6-122.....	44	51	13
6-193.....	44	32	9
6-27.....	34	40	10
6-2.....	33	45	14
6-112.....	31	36	5
6-57.....	24	26	7
6-177.....	23	34	15
6-50.....	22	32	6
6-29.....	20	25	7
6-44.....	19	17	5
6-102.....	15	24	6
6-30.....	15	13	5
Remaining standards.....	179	277	66
Total.....	2,786	3,410	1,017
Grand total.....			7,213

<sup>1</sup> Of the metal and nonmetal mine health and safety standards and regulations, there are 112 explosive standards of which 84 are mandatory and 28 are advisory.

## EXPLOSIVE STANDARDS MOST FREQUENTLY CITED AS REASONS FOR CLOSURE ORDERS, PERIOD OF JAN. 1, 1972, TO SEPT. 2, 1975

Standard number	Imminent danger orders	Non- compliance orders	Not specified	Total
6-20.....	12	46	9	67
6-1.....	29	5	1	35
6-168.....	8	1	3	12
6-47.....	5	7		12
6-107.....	10		1	11
6-92.....	9	1	1	11
6-2.....	11			11
6-177.....	6	1	2	9
6-40.....	8	1		9
6-5.....	1	8		9
6-130.....	8			8
6-42.....	3	4		7
6-45.....	6			6
6-43.....	2	4		6
6-102.....	4	1		5
6-96.....	5			5
6-00.....	5			5
6-193.....	3	1		4
6-120.....	4			4
6-94.....	4			4
6-50.....	3		1	4
6-106.....	3			3
6-95.....	3			3
6-90.....	2	1		3
6-46.....	3			3
6-195.....	2			2
6-170.....	2			2
6-111.....	1	1		2
6-100.....	2			2
6-65.....	2			2
6-52.....	1		1	2
6-116.....		1		1
6-113.....	1			1
6-97.....	1			1
6-91.....	1			1
6-57.....	1			1
6-56.....	1			1
6-54.....	1			1
6-53.....		1		1
6-44.....	1			1
6-35.....	1			1
6-123.....	1			1
6-122.....	1			1
Total.....	177	25	19	280

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(NOTE.—The Senate Internal Security Subcommittee attaches no significance to the mere fact of the appearance of the name of an individual or organization in this index.)

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