22 MAR 1971

EQ-20

Operational/Procedural Noise Reduction
Flight Program - Progress Report No. 4

Deputy Administrator
Through: PL-1 RWP 3/31/71

On 26 February 1971, a meeting was held in Washington Headquarters with interested groups of the aviation industry and civic organizations for the purpose of coordination and review of the agency's subject program. Nine interested groups were represented by thirty-five attendees (see Enclosure 1 for listing of participants).

A detailed presentation was given of the basic subject program, plus mention of the recently added "fly-by" data acquisition schedule recommended by the Department. Much discussion evolved relating to the profiles and paths to be flown. Due to the varying suggestions of many participants, it was requested that formal recommendations be submitted to the program director within one week as to possible modification, deletions or additions of the profiles presented. The groups attending were invited to participate in the program, on-site, as observers and in the case of pilots as active evaluators.

The program's task force met 9 March 1971 to make final decisions on the flight paths and profiles to be evaluated. The resulting decisions were based on comments received and a redefinition of the profile requirements subject to the inclusion of "fly-by" data acquisition, now referred to as Phase II.

The approach-to-land profiles (Enclosure 2) have remained essentially the same in total number and definition. The "clean" configuration has been deleted as such serves little practicality in line operation and more importantly the noise level data from this configuration can now be obtained effectively from the fly-by runs. The departure profiles (Enclosure 3) have been reduced in number and refined somewhat to reflect the submitted comments, where appropriate, as well as final consensus of the task force members. The adjustments and/or reductions in either the approach-to-land or departure profiles will improve the program's definition and increase the value of its results.

As follow-on action to the statements in the OA-1/TST-1 memorandum of 23 February 1971, Enclosure 4, defines the purpose, objectives, airplane configuration-thrust and airframe, and run scheduling for the fly-by data acquisition. While the requirements of data acquisition for this addition to the basic program will increase the acoustical contract costs by some fifty per cent, and flight time by approximately thirty per cent, concurrence is given to the Department's recommendation, in that such efforts will produce needed and essential noise level information.

Progress Report No. 3 reported on a conflict in scheduling and availability of the agency's B-720 turbojet airplane to the program's needs. Immediate action was taken to substitute the agency CV-880 turbojet airplane, only to find precommitted scheduling would not permit such substitution. Currently, efforts are underway to resolve the conflict.

A detailed flight plan is currently being developed to include sequentially each event and all supporting requirements for the successful execution of the event. This flight plan is to be completed for task force review 23 March. Program personnel, along with representatives of the acoustical contractor, have made a preliminary survey of the test site including both the facilities and noise measuring site locations. No apparent major problems exist regarding the site at this time.

ORIGINAL SIGNED BY
JOHN O. POWERS

JOHN O. POWERS, Acting Director
Office of Environmental Quality, EQ-1

4 Enclosures

ENCLOSURE 1

FAA/INDUSTRY/CIVIC GROUP MEETING
OPERATIONAL/PROCEDURAL NOISE REDUCTION FLIGHT PROGRAM

26 February 1971

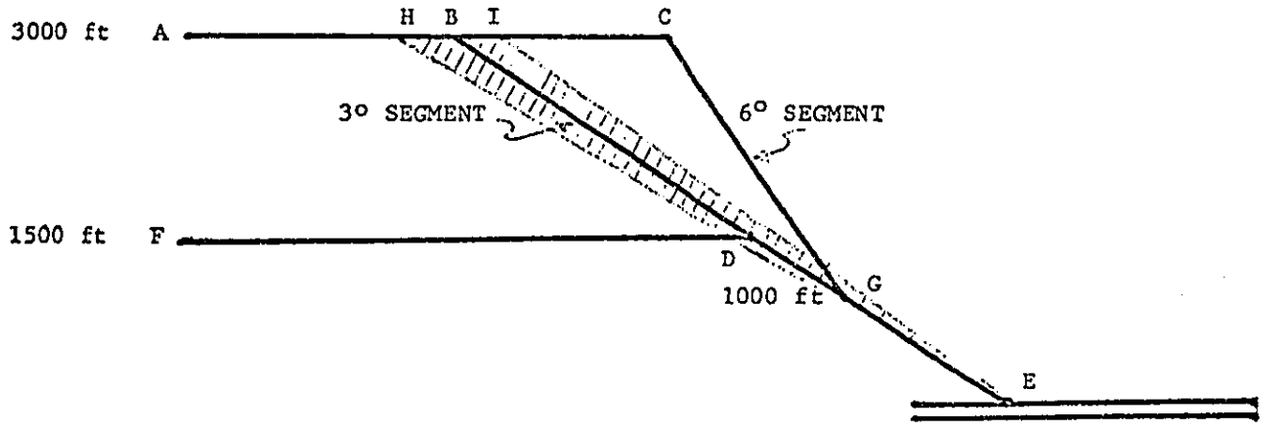
ATTENDEES

Represented	Representative
Airport Authority	Louis Achitoff (PONYA - New York) W. L. Cleveland (Dade County, Fla.)
Metropolitan Areas	D. N. Feinrian (Atlanta, Georgia) J. J. Shelby (New York, New York) L. Hinton (Minneapolis-St. Paul, Minn.)
Airlines	Buck Schorr (Allegheny) Harvey Thompson (Allegheny) Paul A. Soderlind (Northwest) H. B. Benninghoff (American) Jack H. Graef (American) Robert A. Rogers (American) T. P. Ball (Delta)
Airport Operators Council International	Leo F. Duggan Jack Koepke
Airlines Transport Association of America	William B. Becker
National Business Aircraft Association	Larry Bedore
Air Line Pilots Association	Harold Marthinsen Ivan Reddington Andy D. Yates, Jr.
Federal Aviation Administration	Oscar Bakke J. O. Powers Hugh Riddle (CA) L. R. Merritt M. E. Russell

ATTENDEES (Con't)

Federal Aviation Administration	E. W. Sellman
	J. K. Power
	C. Morrow
	Harry Jackson (NAFEC)
	W. M. Frucht
	J. P. Mays
	R. A. Chubboy
	J. Cruz
	R. D. Shreve
Department of Transportation	C. H. Williams
	Gordon Banerian

APPROACH TO LANDING PROCEDURES
(MAXIMUM LANDING WEIGHT)

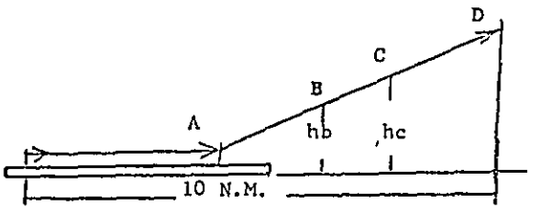


NOTE:

1. GEAR UP AND APPROACH CONFIGURATION UNTIL REACHING B, C OR D.
2. SEGMENT F-D WILL BE FLOWN AT TWO APPROACH CONFIGURATION (50/50) TO BE SELECTED BY FS. ONE OF THESE WILL BE USED FOR COMPLIANCE WITH NOTE 1.

PROFILE	CONFIGURATION		
	LAND. #2	LAND. #1	APPROACH
CONVENTIONAL (1500'-F-D-E)	X	X	X
CONVENTIONAL (3000'-A-B-E)	X	X	X
TWO SEGMENT (A-C-G-E)	X		
HIGH GLIDE SLOPE (3000'-A-I-E)	X		
LOW GLIDE SLOPE (3000'-A-H-E)	X		

ENCLOSURE 2



TAKE OFF WEIGHT			A-B	hb	B-C	hc	C-D	3000'
1	MAX LAND	SPEED THRUST FLAP	→ FRS T. O. T. O.	400±	→ 250K T. O. → CLEAN	NA	250K →ERCT CLEAN	NA
2	MAX T. O.	SPEED THRUST FLAP	→ FRS T. O. T. O.	400+	→ 250K T. O. → CLEAN	NA	250K →ERCT CLEAN	NA
3	MAX LAND	SPEED THRUST FLAP	→ V_2 + 10 T. O. T. O.	1000	(1) → V_{Ref} T. O./EPR-1 → CLEAN	NA	V_{Ref} EPR-1 CLEAN	→ 250K CLIMB T. CLEAN
4	MAX	SPEED THRUST FLAP	→ V_2 + 20 T. O. T. O.	1000	V_2 + 20 → EPR-2 T. O.	NA	V_2 + 20 EPR-2 T. O.	NA
5	MAX LAND	SPEED THRUST FLAP	→ V_2 + 20 T. O. T. O.	1000	V_2 + 20 → EPR-1 T. O.	NA	V_2 + 20 EPR-1 T. O.	NA
6	MAX T. O.	SPEED THRUST FLAP	→ V_2 + 20 T. O. T. O.	1000	V_2 + 20 → EPR-1 T. O.	NA	V_2 + 20 EPR-1 T. O.	NA

NOTES AND DEFINITIONS

(1) Achieve acceleration by bringing pitch attitude for V_2 + 10 down to ½ that value +1 degree

EPR-1 = The EPR which gives as much thrust from all engines as would be necessary to maintain straight and level flight at max. takeoff weight with one engine out
EPR-2 = AN EPR setting intermediate between EPR-1 and T. O. settings
NA = Not applicable
FRS = Flap retract speed
T.O. = Takeoff setting
ERCT = Enroute Climb Thrust

ENCLOSURE 3

OPERATIONAL/PROCEDURAL NOISE REDUCTION PROGRAM
PHASE II

Objective

The purpose of Phase II is to measure the sound propagation in the atmosphere and to conduct an investigation of aircraft sideline noise propagation. The Federal Aviation Administration (FAA) plans to catalog the noise signatures of the aircraft in situ for Phase I of the program. This data will be collected from flybys and the data will also be used to produce curves of Effective Perceived Noise Levels (EPNL) versus slant range. In this form it can be introduced into a computer program to obtain a Noise Exposure Forecast (NEF) for any airport if the flight paths and predicted traffic are available. These forecasts can then be used to predict levels of community reaction to aircraft noise and as a guide to land use planning. The sound propagation data will be used to resolve discrepancies in atmospheric absorption and propagation charts.

Proposed Course of Action

The objectives will be attained by analyzing acoustic data collected from a series of flybys at 4,000', 1,000', 500', and 250' above ground level. The runs will be as shown in Figure 1 from SW to NE over the centerline of runway 04 at NAFEC. Three power settings will be sufficient to give the required information--takeoff power, minimum power to maintain level flight at approach speed, and cutback power after takeoff (EPR for equivalent level flight with one engine out). Two measurement runs will be scheduled for the low altitude runs, three for the higher altitudes, if required.

Microphones will be located approximately 50' north of and parallel to runway 31 at the following distances from the centerline of runway 04: 125', 500', 1,500', 4,000', and 7,000'. Data will also be recorded from the microphone located one mile from the runway threshold. Level flight is desired for all runs. The aircraft will be in the takeoff configuration for those power settings associated with takeoff and in the landing configuration for the minimum power runs. The following table shows the altitude and power to be maintained throughout the run; i.e., from 2 n.m. DME to the field until 3 n.m. DME from the field.

Table I

Run #	Altitude (msl)	Thrust
1	4076'	100%
2	4076'	EPR for cutback
3	4076'	Level flt. min.
4	1076'	100%
5	1076'	Cutback

Table I (continued)

Run #	Altitude (msl)	
6	1076'	Level flt. min.
7	576'	100%
8	576'	Cutback
9	576'	Level flt. min.
10	326'	100%
11	326'	Cutback
12	326'	Level flt. min.

Runs 13-24 will repeat the above. Extra runs at the higher altitudes will be made as required.

The pilot of the test aircraft will report to NAFEC tower when he is two miles out inbound. The command post will monitor tower frequency and will direct the acoustic and tracking groups to commence taking data. The command post will state "Run complete" when the test aircraft is 3 n.m. to the northeast, at which time the test aircraft will enter a right-hand racetrack pattern to get into position for the next run.

After the test aircraft has completed a run, the weather plane will make a weather run on a heading of 040° commencing 500' above the test run altitude and descending to make a low pass to the center of the field, turn 90° left and flap at 126' msl out along the microphone array. The weather plane will then fly to the southeast and orbit until the test aircraft completes the next run.

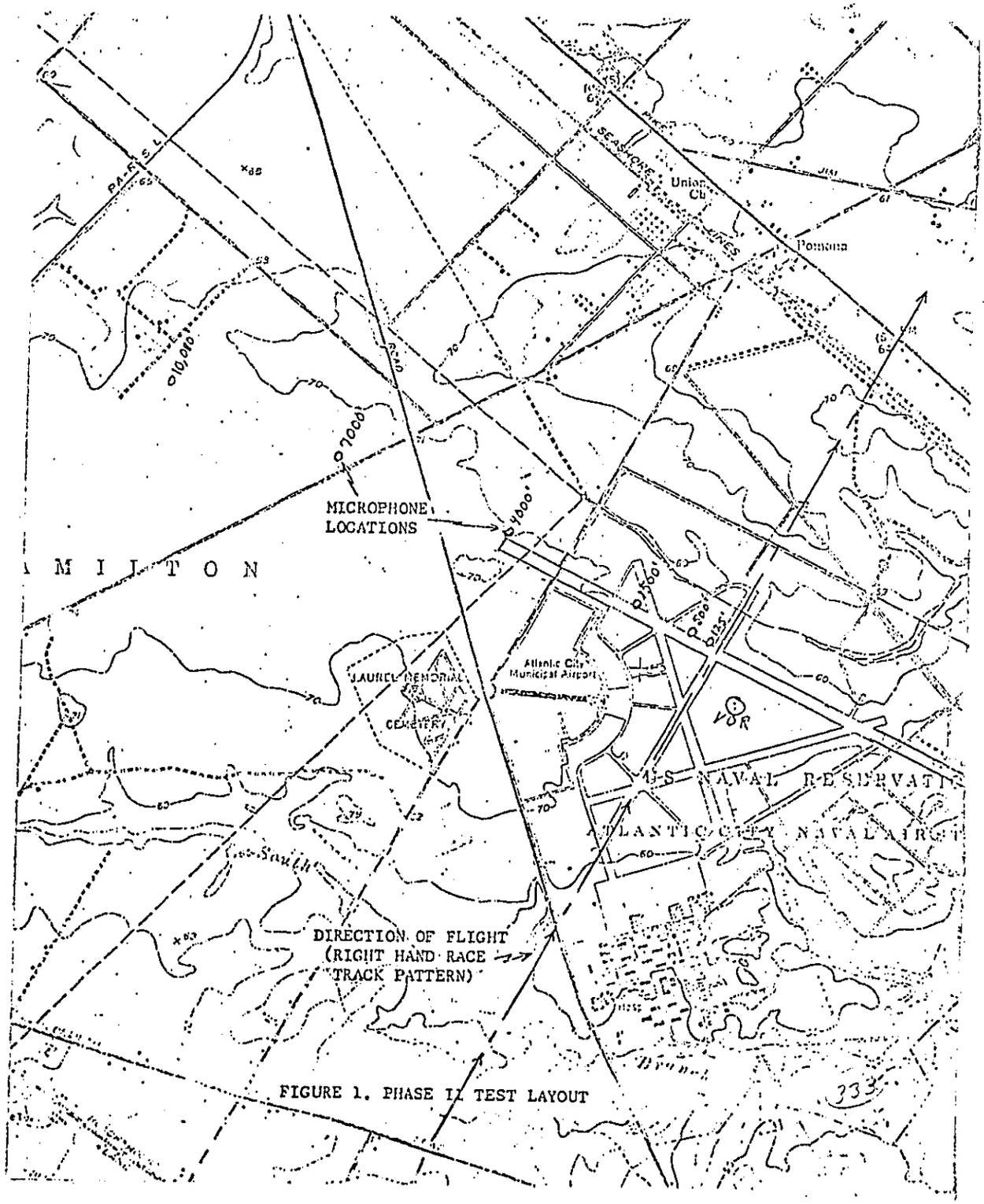


FIGURE 1. PHASE II TEST LAYOUT

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

WASHINGTON, D.C. 20590

DATE: 24 AUG 1971

REPLY REFER TO: EQ-20

SUBJECT: Operational/Procedural Noise Reduction Flight Program - Progress Report No. 5

TO: Deputy Administrator
Through: PL-1

The execution of the subject program was initiated 5 April and concluded 30 April, as scheduled. Approximately a week of project flying was completed for each of the evaluation airplanes (B-727, KC-135, B-707-320B, and DC-9). A total of 90 hours of flight produced the program's objectives in obtaining acoustic data and procedural technique analysis for the 31 different departure, approach-to-land, and flyby operational flight profiles and paths flown. Approximately 400 individual flight events were executed in verifying the acoustic recordings and ensuring repeatability in piloting technique.

In general, the acoustic data was acquired and is being reduced in accordance with the procedures set forth in the appendices of FAR Part 36. The question of acquiring reliable acoustic data with winds greater than 10 knots was reviewed early in the first week of flight evaluation. It was decided that, while 10 knots or less was desired, such would not be a constraint to the project flying or data acquisition. It was further decided, and followed throughout the program evaluation, that if or when the winds became of that magnitude to be marginally acceptable to either the acoustic recordings or operational flying, the project flight period would be canceled. Several flight periods were in fact terminated because of this condition. The average wind reported from the control tower for the four weeks of flight evaluation was 11.7 knots--well within that to be experienced in day-to-day routine line operation.

Prior to the program's execution, a special invitation was extended to industry and interested persons for "on-site" visitation and pilot participation during the evaluation period. The response was gratifying, in that six airlines, the Air Line Pilots Association, consultant firms, and urban sound abatement groups sent representatives. The visiting pilots were given the opportunity to "ride" and in some instances to "fly" the procedures under evaluation. A program requirement, which is yet to be fulfilled, is to obtain written comments from both the project and visiting pilots as to cockpit workload, additional training, required instrumentation, apparent limitations--if any, and, in general, the impact on operational safety, were the evaluated procedures to be considered for implementation.

The acquired acoustic data are in the process of reduction and analysis. The final acoustic contractual report from which final analysis can be made is to be submitted to the agency in September. A review of the

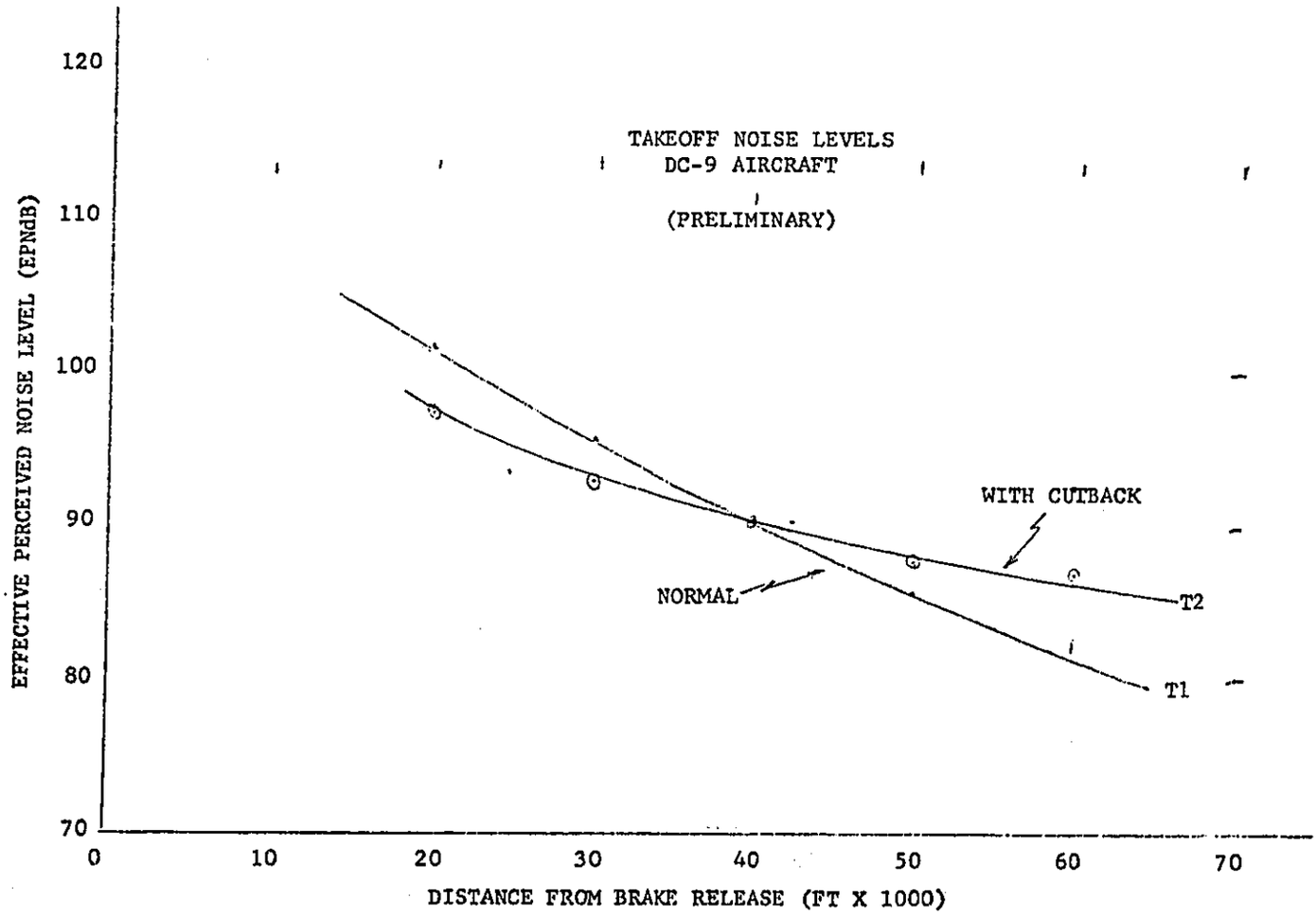
draft acoustic report indicates that an appreciable reduction in noise exposure can be attained. Enclosed are preliminary data plots from three of the airplanes evaluated (B-727, DC-9, and B-707-320B) for two approach-to-land profiles and two departures. It is interesting to note that, while the expected reduction in noise is gained between the approaches shown, 1500 foot to normal glide slope (2.5^{o} at NAFEC) versus the 3000 foot two segment to normal slope, the gains in noise reduction for departures between using thrust cut at 1000 feet while holding climb-out speed and takeoff configuration constant versus no noise abatement procedure; i.e., clean up and accelerate to 250 knots at full thrust, are marginal to negative depending upon what distance from brake release a reduction is desired.

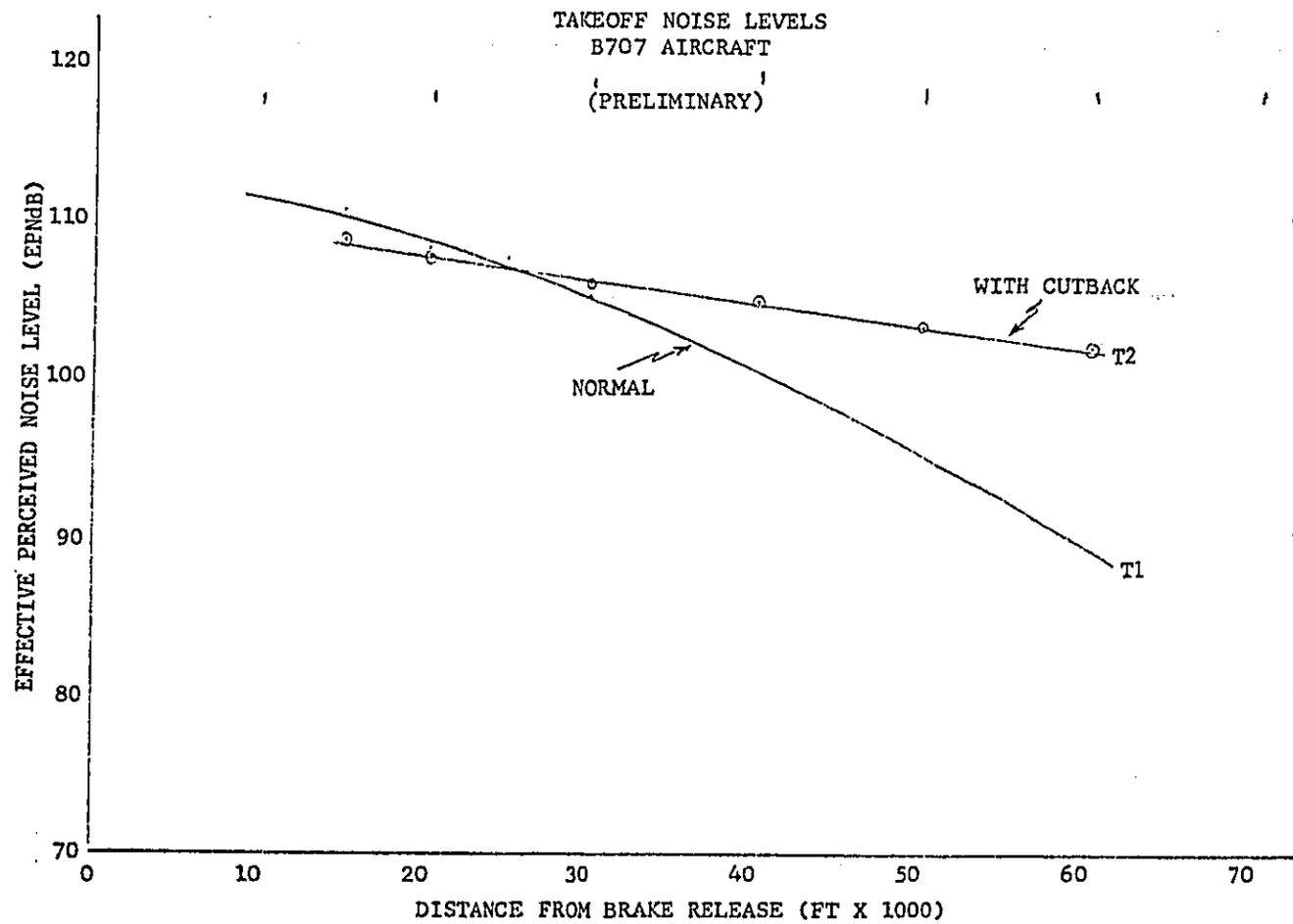
A final report, including recommendations, on the analysis of the total evaluation will be prepared and sent forth as soon as possible after receiving the final acoustic report, the pilot's procedural analysis, and the review and comments from Air Traffic Service as to the impact on the air traffic control system regarding the potential implementation of the profiles and paths evaluated.

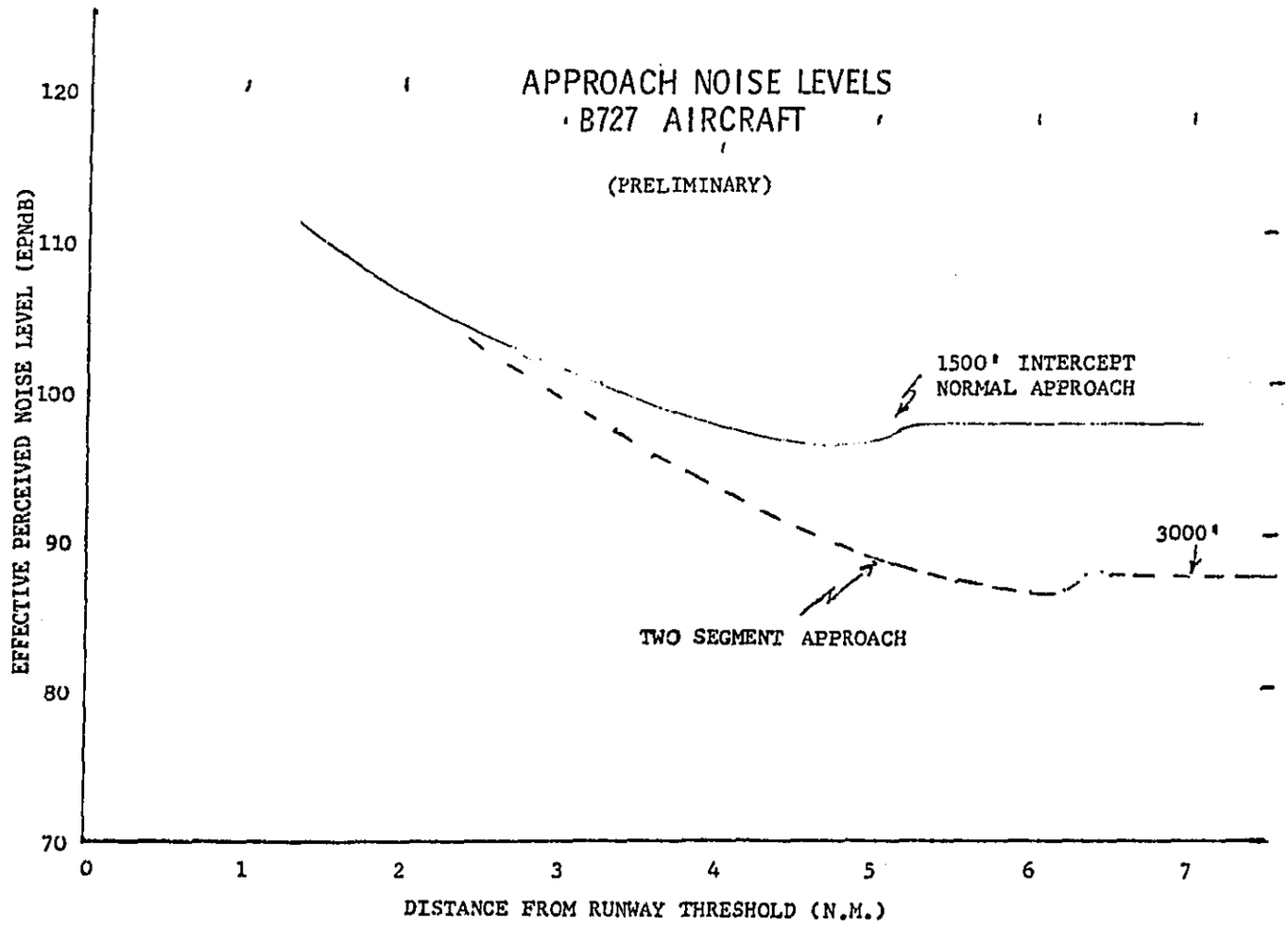
The success of the program's execution can be directly attributed to the unqualified cooperation received collectively and individually from project people, plus complete facility and logistic project support.

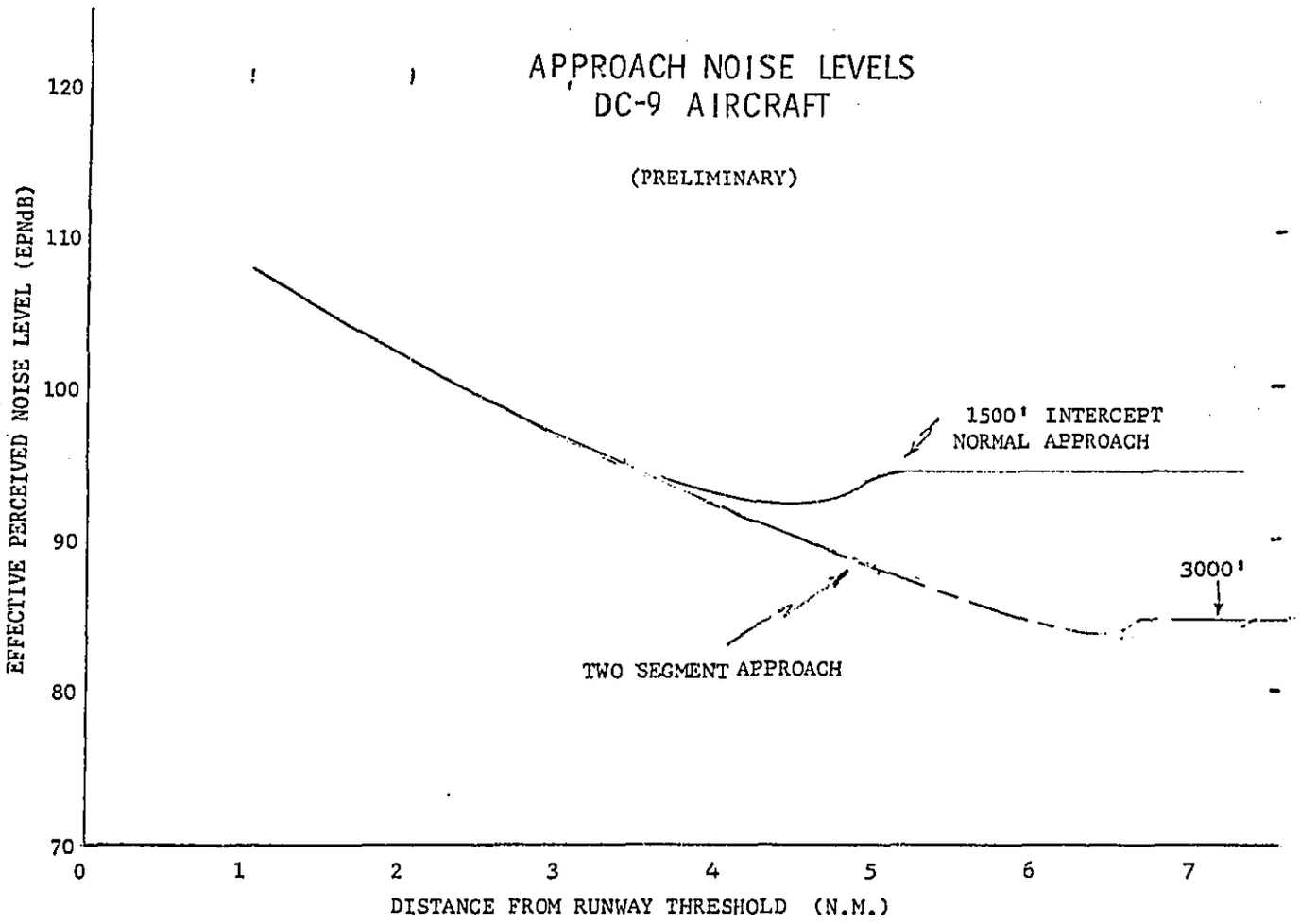
R. P. SKULLY, Director
Office of Environmental Quality, EQ-1

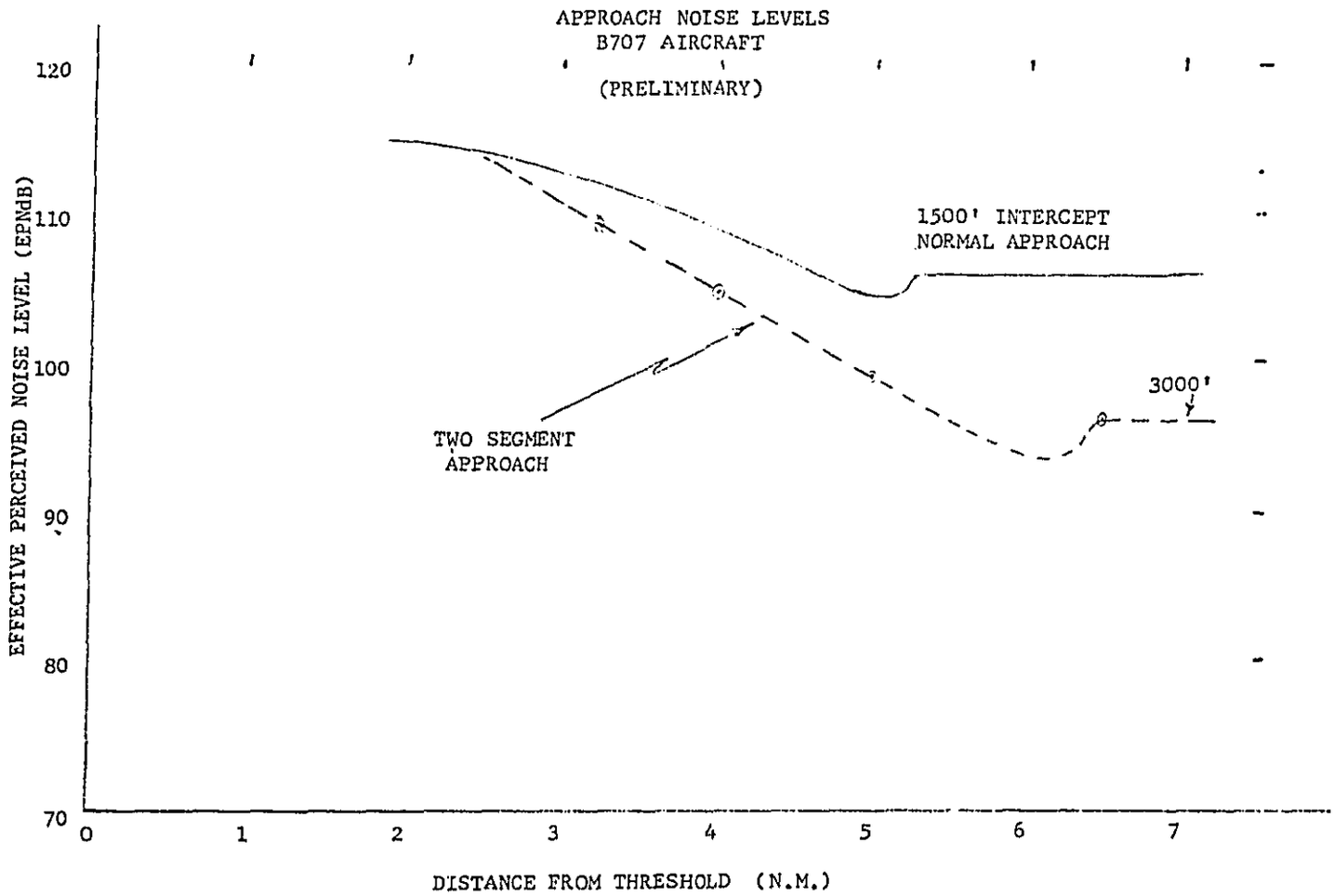
Enclosures

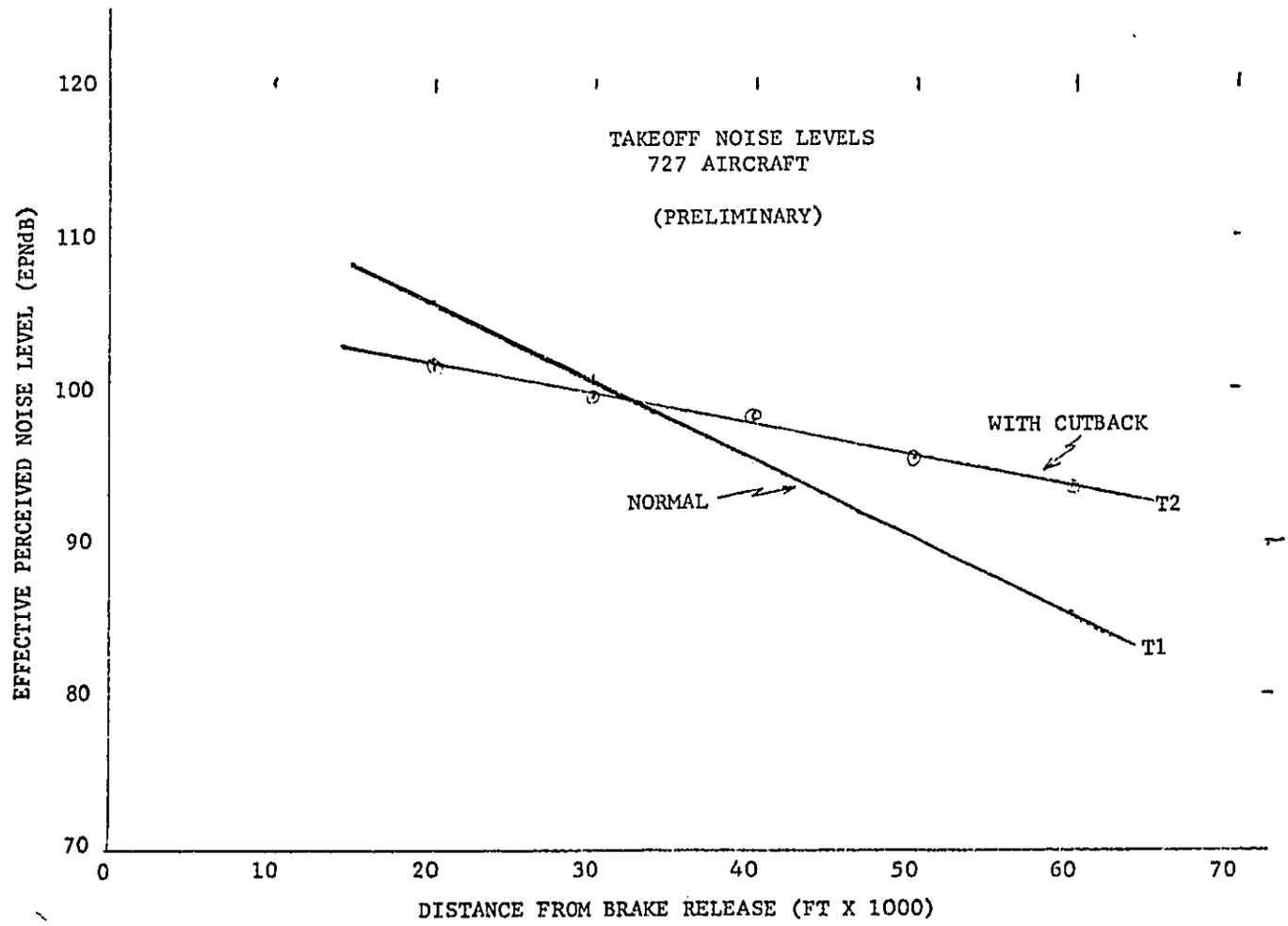

TAKEOFF NOISE LEVELS
DC-9 AIRCRAFT
(PRELIMINARY)
EFFECTIVE PERCEIVED NOISE LEVEL (EPNdB)
120
110
100
90
80
70
0
10
20
30
40
50
60
70
DISTANCE FROM BRAKE RELEASE (FT X 1000)
WITH CUTBACK
NORMAL
T2
T1


TAKEOFF NOISE LEVELS
B707 AIRCRAFT
(PRELIMINARY)
EFFECTIVE PERCEIVED NOISE LEVEL (EPNdB)
120
110
100
90
80
70
0
10
20
30
40
50
60
70
DISTANCE FROM BRAKE RELEASE (FT X 1000)
WITH CUTBACK
T2
NORMAL
T1


APPROACH NOISE LEVELS
B727 AIRCRAFT
(PRELIMINARY)
EFFECTIVE PERCEIVED NOISE LEVEL (EPNdB)
120
110
100
90
80
70
0
1
2
3
4
5
6
7
DISTANCE FROM RUNWAY THRESHOLD (N.M.)
1500' INTERCEPT
NORMAL APPROACH
3000'
TWO SEGMENT APPROACH


APPROACH NOISE LEVELS
DC-9 AIRCRAFT
(PRELIMINARY)
EFFECTIVE PERCEIVED NOISE LEVEL (EPNdB)
120
110
100
90
80
70
0
1
2
3
4
5
6
7
DISTANCE FROM RUNWAY THRESHOLD (N.M.)
1500' INTERCEPT
NORMAL APPROACH
3000'
TWO SEGMENT APPROACH


APPROACH NOISE LEVELS
B707 AIRCRAFT
(PRELIMINARY)
120
110
100
90
80
70
EFFECTIVE PERCEIVED NOISE LEVEL (EPNdB)
1500' INTERCEPT
NORMAL APPROACH
3000'
TWO SEGMENT
APPROACH
0
1
2
3
4
5
6
7
DISTANCE FROM THRESHOLD (N.M.)


TAKEOFF NOISE LEVELS
727 AIRCRAFT
(PRELIMINARY)
WITH CUTBACK
NORMAL
T2
T1
EFFECTIVE PERCEIVED NOISE LEVEL (EPNdB)
120
110
100
90
80
70
0
10
20
30
40
50
60
70
DISTANCE FROM BRAKE RELEASE (FT X 1000)

DEPARTMENT OF AGRICULTURE

UNITED STATES DEPARTMENT OF AGRICULTURE
SCIENCE AND EDUCATION STAFF
WASHINGTON, D. C. 20250

August 31, 1971

SUBJECT: Federal Noise Program Information

TO: Alvin F. Meyer, Jr., Director
Office of Noise Abatement and Control
EPA

Enclosed is information on activities in USDA related to noise.

FRED H. TSCHIRLEY
Pesticides Coordinator

Enclosure

FEDERAL NOISE PROGRAMS INFORMATION

I. Organizational

A. U. S. Department of Agriculture: Extension Service, Consumer and Marketing Service, Agricultural Research Service, Cooperative State Research Service, Forest Service.

B. Legislative Authorities: Clark-McNary Act of 1924; McSweeney-McNary Forest Research Act of 1928; Smith-Lever Act; Agric. Exp. Sta. Act of 1955 (Hatch Act of 1887, as amended).

II. Functional

A. Overall Program Objectives: (1) Conduct surveys as a part of safety program to determine noise levels emanating from agricultural sources, (2) conduct research on noise propagation and attenuation by vegetative screens.

B. Specific Programs:

1. The attenuation of noise by vegetation (Grant, Connecticut).
2. Noise and vibration of off-road equipment (Grant, Illinois).
3. Landscape ecology and stress physiology of plants (Grant, Ind.).
4. Safety and hazards - general (Grant, Nebraska).
5. Management characteristics of urban forest space (Grant, N.C.).
6. Extension education programs (visual aids and bulletins) on noise abatement of farm machinery, sawmills, and on-farm processing and personal protective equipment.
7. Effects of forest vegetation on noise attenuation (in-house).
8. Development of instrumentation for noise evaluation (in-house).

9. Effect of sonic booms on behavior, reproduction, and growth of farm-raised mink (cooperative research with Air Force, University of Washington, and University of Alaska).

10. Survey to determine noise levels in meat and poultry plants (integral part of safety program).

C. Procedures: The USDA programs related to noise are principally research projects, usually designed to answer specific problems. There has not been a coordinated thrust on an intensive scale. The research has been done inhouse, by means of grants to State agricultural experiment stations, and thru cooperation with other government agencies. Cooperative efforts are conducted as specific needs dictate.

III. Fiscal

A. Current program

1. Facilities have not been constructed only for the purpose of research on noise. Minimal equipment is now available.

2. The current operating budget is about $250,000.

3. Approximately 5 scientific man-years.

B. Past and future plans

1. Past programs have been nominal--below current level.

2. Future programs will probably remain near the current level although some increase can be expected in specific research areas.

IV. Regulation and Certification: Not applicable.

DEPARTMENT OF COMMERCE

THE ASSISTANT SECRETARY OF COMMERCE
Washington, D.C. 20230

September 10, 1971

Dr. Alvin F. Meyer, Jr.
Director, Office of Noise
Abatement and Control
Environmental Protection Agency
Washington, D.C. 20460

Dear Dr. Meyer:

This is in response to your letter of July 30, which requested information about the Department of Commerce programs which are directed toward noise abatement and control.

The enclosed outline summarizes the Department of Commerce programs dealing directly with either noise abatement or acoustics research and management. The programs are sponsored by the National Oceanic and Atmospheric Administration (NOAA) and the National Bureau of Standards (NBS). In addition to Departmental programs, NBS also performs noise-related research for a number of other Federal agencies. It should be noted that the Department of Commerce has no authority or responsibilities in the area of noise regulation or certification at the present time.

I hope that the information enclosed will be of assistance to you.

Sincerely,

Sidney R. Galler

Sidney R. Galler
Deputy Assistant Secretary
for Environmental Affairs

Enclosure

U.S. DEPARTMENT OF COMMERCE
National Bureau of Standards
Washington, D.C. 20234

Date: September 2, 1971

Reply to Attn of: 421.14

Subject: Request from EPA for Information Regarding Department of Commerce Programs in the Area of Noise Abatement and Control

To:

Dr. R. E. Ferguson
Scientific Assistant to
the Associate Director for Programs

Attached is the information requested by the Environmental Protection Agency in their letter to Dr. Galler, Deputy Assistant Secretary for Environmental Affairs, Department of Commerce dated 30 July 1971.

We have attempted to outline in detail the in-house funded programs within the Department of Commerce which are directed toward noise abatement and control. We further have outlined our acoustics research, such as the development and standardization of calibration procedures, and have briefly described our work for other federal agencies.

I trust this information package will satisfy the original request and will provide EPA with the Commerce program data which they need to include in the discussion of the total Federal effort in their report to the President and Congress.

DANIEL R. FLYNN, Chief
Applied Acoustics and Illumination
Sensory Environment Branch
Building Research Division, IAT

cc: Dr. Ambler
Dr. Willenbrock
Mr. Irwin
Dr. Wright
Mr. Achenbach
Dr. Cook
Mr. Greenspan
Mr. Thompson
Mr. Kramer

Federal Noise Program Information

I. Organization - U.S. Department of Commerce

Within the Department of Commerce the National Bureau of Standards (NBS) and the National Oceanic and Atmospheric Administration (NOAA) conduct research and measurement programs in acoustics, some of which are directly related to noise abatement and control.

II. Function

A. Overall Program Objectives

1. NBS Role

Measurement plays a pervassive role in assessing the consequences of noise, its effect and control. Both the assessment of noise problems and the assessment of alternative strategies for noise abatement and control ultimately rest on accurate, reliable, and relevant measurement capability.

The NBS program being carried out within the Institute for Basic Standards (IBS) provides the needed basic measurement and calibration services, and extends the basic understanding of noise generation and transmission. The role of the Institute for Applied Technology (IAT) program is directed toward specific and actual noise problems that are of urgent importance to today's society.

2. NOAA Role

The general function of NOAA is to observe and collect comprehensive data about the state of the oceans and inland waters, of the upper and lower atmosphere, and of the space environment. They conduct basic research in atmospheric acoustics and the propagation of sound through the atmosphere. Their mission in acoustics is not specifically directed toward noise abatement and control and hence is not discussed herein.

B. Specific Programs - NBS

1. IBS - Mechanics Division

The following projects of the Sound Section are directly related to noise abatement and control.

<u>Characterization of Reverberant Sound Fields</u>

Objectives: Investigation of the physical properties of various types of reverberant sound fields and the physics involved in the transmission, attenuation, and absorption of airborne and structure-borne sound in materials and structures.

Investigations aimed at resolving the controversies involved in the use of human walkers, tapping machines or other impact devices as standard sources for measurement of impact sound insulation and surface noise radiation of flooring materials and floor-ceiling assemblies.

Development of new or improvement of existing methods for measurement of sound absorption and sound power in reverberation chambers.

Investigation of Loudness, Noisiness, and Annoyance

Objectives: Investigate present methods of measuring subjective loudness, noisiness, and aversiveness of sounds. Develop new methods for subjective measurement and correlate with physical characteristics of acoustic stimuli. Establish a more consistent psychophysical basis for loudness and noisiness calculating algorithms with application to noise abatement and control.

In addition to these activities, the Sound Section and the Vibration Section are engaged in basic research activities such as the development and standardization of calibration procedures for microphones, audiometers, sound level meters, earphones, vibration measuring systems, bone-vibrators, artificial ears, and hearing aids.

2. IAT- Building Research Division

The following projects are now being conducted by the Applied Acoustics and Illumination Section, Sensory Environment Branch.

Building Acoustics

Objectives: Develop improved test methods for measuring sound transmission through building component systems, such as floors, ceilings, walls and partitions; and through assembled components; such as windows, doors, ducts, and plumbing.

To develop improved test methods for measuring sound caused and distributed by internal equipment such as air conditioners, elevators, appliances, etc.

Conduct psycho-acoustics studies in order to minimize the effects of appliance and other household noises on the normal living pattern of the occupants. The research is directed toward the identification of basic parameters associated with "annoyance", the development of a simulation program based on these parameters, and ultimately the control of the unwanted noise sources by demonstrating the adverse behavioral consequences associated with them.

A second immediate goal is to develop methods of rating and testing the overall acoustical performance of assemblies of building elements and of entire buildings. Field measurements of noise in buildings in use will be made and the findings will be the base upon which laboratory evaluations are planned. By linking field experience of users with the laboratory test development, it is anticipated that the standards and codes derived will permit innovative design and construction techniques to be used in solution of the noise problem. The requirements, criteria, and evaluative tests developed would be the basis of standards for designers and building contractors to use for noise control in buildings.

3. Other Agency Programs

In addition to in-house supported projects, the National Bureau of Standards has a working budget of about $465,000 for other agency sponsored programs.

IBS

1. Department of Defense - a) Physical acoustics and the properties of matter, b) measure the responses of microphone systems designed for special applications.

2. HEW - prepare a book summarizing and interpreting experimental results on the properties of the normal human senses of sight, touch, and hearing from the standpoint of being instruments for perception of the physical world.

3. Veterans Administration - measurement of hearing aids.

4. Bureau of Mines - noise control for mine safety.

IAT

1. Department of Transportation - measurements and study of truck tire noise.

2. HUD - development of acoustical criteria for "Operation BREAKTHROUGH" housing systems and evaluation of these systems through review of plans and testing.

3. EPA - technical assistance for the preparation of its report on noise and its effect on the public health and welfare.

4. Justice - measurements and study of the noise generated by sirens and horns and their effectiveness as warning devices.

C. Procedures

Dr. Richard K. Cook serves as the Special Assistant (to the Deputy Director of the National Bureau of Standards) for Noise Abatement Programs. His duties include coordination of the basic and applied research efforts within the Bureau.

Within the Building Research Division, Mr. Samuel Kramer, as Federal Program Coordinator, serves as a liason for all other agency programs. The IAT program is intended to complement other agency programs so that NBS can provide the measurement and information base needed by other Federal agencies and by state and local governments to permit rational establishment and uniform enforcement of standards and regulations for noise control and abatement.

III. Fiscal

A. Current Programs

1. In addition to the laboratory facilities (including a large anechoic chamber and reverberation room) and associated equipment for acoustics research, the following real property is utilized for noise programs.

a. facilities - $60,000
b. equipment - $210,000

2. Current Operating Budget - $500,000 (approximately $200,000 of which is directly applied toward noise abatement and control).

3. Personnel - 24 professionals working on acoustics, including physicists, engineers and psychologists. [This is the total staff. Not all of these people are working on projects dealing with noise control].

4. Contracts, grants, loans, and subsidies

a. Contract ($8000) with Bickerdike, Allen, Rich and Partners, London, England. The output of this contract will be a report which will be used as a source document for an NBS publication tentatively entitled "A Design Guide for Protection Against Environmental Noise". The

report (contractor's) will be a digest of European information and data presented in a manner so as to be easily understood by architects and urban planners.

b. Contract ($33,000) with Owens-Corning Fiberglass Corporation, Granville, Ohio. The objective of the contract is to obtain meaningful data on the acoustical, thermal, and infiltration performance of doors and windows, and to relate this data to analytical or empirical expressions which can be utilized in building design.

B. Past and Future Programs

1. Past Programs

a. expenditures - a total of about $1,410,000 for the past five years (approximately $180,000 specifically for noise control).

b. facilities acquisitions - $60,000 for five years (These are facilities specifically for noise control programs and does not include the construction cost of the large anechoic chamber and reverberation rooms).

2. Future Programs

A $200,000 increase in in-house funding has been requested for FY-73. This increase would allow the National Bureau of Standards to expand their efforts in the field of noise control and abatement with expanded research programs in both the basic and applied research areas. Present programs would form the basis for expansion into new areas. Money has been requested in the FY-73 budget to cover the planning expenses for the design of an architectural acoustics and noise control facility. If planning funds are approved for FY 73, construction money would be requested in FY-74. The estimated total cost of this facility is $6 million.

IV. Regulation and Certification

The Department of Commerce has no authority or responsibilities in the area of noise regulations or certification at the present time.

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Rockville, Md. 20852

SEP 1 0 1971

Mr. Alvin F. Meyer, Jr.
Director, Office of Noise Abatement and Control
Environmental Protection Agency
Washington, D. C. 20460

Dear Mr. Meyer:

This is in reply to your letter to Dr. William Aron of NOAA on the requested report dealing with Federal activities in noise effects, abatement and control.

Without the benefit of an emission inventory of major noise sources owned that will be requested by you in the future, our activities in this area have been minimal. Accordingly at this time, our report is submitted in the "negative."

Within NOAA, complaints of noise affecting NOAA employees, the General Radio Corporation Sound Survey Meter, Type 1555, is used to get basic readings. If the levels of noise are above the permissible levels as outlined in the Walsh-Healey Act, the Medical Director of the Department of Commerce is notified who then applies sophisticated audio testing leading to the necessary adjustments to reduce such noise or provide personnel protection equipment and/or reduce the exposure time of the personnel.

Sincerely,

E. F. McCann

E. F. McCann
Chief, Administrative Operations Div.

GENERAL SERVICES ADMINISTRATION

UNITED STATES OF AMERICA
GENERAL SERVICES ADMINISTRATION
WASHINGTON, D.C. 20405

September 10, 1971

Dr. Alvin F. Meyer
Director
Office of Noise Abatement
and Control
Environmental Protection Agency
Washington, D. C. 20460

Dear Dr. Meyer:

This letter is in response to your request of July 30, 1971, for information on GSA's noise programs.

Because GSA has, at present, no formal noise pollution abatement program underway, we cannot respond to your outline on a point-by-point basis.

However, GSA is involved in developing noise pollution abatement procedures for its construction and demolition operations as well as amending its procurement specifications to require quieter products. Enclosed are copies of experimental noise regulations and amended specifications. Shortly, three new lawn mower specifications will be issued which will include maximum sound level requirements.

I hope this information will be helpful. Please do not hesitate to call if I may be of further assistance.

Sincerely,

Robert H. McCulloch

for AARON J. WOLOSHIN
Executive Director
Office of Environmental Affairs

Enclosures

35. NOISE POLLUTION -GSA -PBS Experimental Provisions

35.1 The requirements of this paragraph 35 provide for the Contractor's active participation in (1) identifying the sources or causes of excessive noise generated during the course of construction work, and (2) identifying practical and reasonable steps to be taken for the purpose of reducing excessive noise and/or unnecessary noise to the extent feasible in construction work, and (3) establish by experience during the course of this contract a definition of "excessive noise level."

35.2 The Contractor shall furnish and keep at the site, at all times during the performance of work at the site, a General Radio Company Type 1565A sound level meter, a Type 1562A sould level calibrator and a Type 1556B impact noise analyzer, or such other equipment as will provide similar data and service of equal accuracy as the foregoing. In addition to using the equipment to perform the requirements set out in this paragraph 35, the Contractor shall make it available for use by the Contracting Officer for purposes contemplated by this paragraph 35.

35.3 The Contractor shall make readings, calculations and analyses, totalling the equivalent of an average of 5 per day during the entire construction period, commencing with the first day of work performed at the site. At his discretion, unless otherwise directed by the Contracting Officer, the Contractor may make fewer than five such noise level checks on those days when little work is being performed and more than 5 such noise level checks per day when deemed appropriate, so long as the total average is achieved. Radings shall be taken from points on the periphery of the site nearest the sources of greatest noise, as the Contractor may determine (except as may be otherwise directed by the Contracting Officer).

35.4 The Contractor shall maintain in duplicate a daily record setting out the date and, with respect to each check made, the time, the point of recording, the measurement, the source(s) or cause(s) and the characteristics of excessive noise, together with any analyses, comments or corrective action either initiated or to be discussed with the Contracting Officer. At the end of each work week, the original of the daily records for the week shall be forwarded to the Contracting Officer with any comment or recommendations the Contractor may wish to submit.

35.5 Excessive construction noise levels will be determined, using Table 3-6 in the General Radio Company's Handbook of Noise Measurement as a guide with respect to maximum permissible or acceptable levels.

35.6 On his own initiative, after consultation with the Contracting Officer, or at the direction of the Contracting Officer, the Contractor shall take such action and shall require his subcontractors to take such action as may be appropriate and effective to reduce or eliminate unnecessary noise and to reduce noise determined to be excessive, Provided, however, that if such action entails or will cause an increase in the cost of performing the work, the Contractor shall initiate such action or require his subcontractors to take such action only after consultation with the Contracting Officer and receipt of a written change order.

OO-G-669e
April 10, 1967

SUPERSEDING
Int. Fed. Spec. OO-G-00669d (GSA-FSS)
May 10, 1965 and
Fed. Spec. OO-G-669c
May 27, 1964

FEDERAL SPECIFICATION

GRINDER, PNEUMATIC, HORIZONTAL AND VERTICAL

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 **Scope.** This specification covers portable pneumatic tools for use in grinding, snagging, and wire brushing that are most generally used by the Federal Government.

1.2 **Classification.**

1.2.1 *Types and sizes.* Portable pneumatic grinders shall be of the following types and sizes as specified (see 6.2):

Type I.—Horizontal grinders.
Size:
2 inch.
2-1/2 inch.
3 inch.
4 inch.
6 inch.
8 inch.

Type II.—Vertical grinders.
Size:
4 inch.
6 inch—heavy duty.
6 inch—standard duty.

2. APPLICABLE DOCUMENTS

2.1 **Specifications and standards.** The following specifications and standards, of the issues in effect on date of invitation for bids or request for proposal, form a part of this specification:

Federal Standard:

Fed. Std. No. 123—Marking for Domestic Shipment (Civilian Agencies).

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications and Standards and at the prices indicated in the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.

(Single copies of this specification and other product specifications required by activities outside the Federal Government for bidding purposes are available without charge at the General Services Administration Regional Offices in Boston, New York, Washington, D. C., Atlanta, Chicago, Kansas City, Mo., Dallas, Denver, San Francisco, Los Angeles, and Seattle, Wash.

(Federal Government activities may obtain copies of Federal Specifications, Standards, and Handbooks and the Index of Federal Specifications and Standards from established distribution points in their agencies.)

Military Specification:

MIL-P-12829—Packaging of Pneumatic Hand Tools with Attachments and Accessories.

Military Standards:

MIL-STD-105—Sampling Procedures and Tables for Inspection by Attributes.

MIL-STD-129—Marking for Shipment and Storage.

(Copies of Military Specifications and Standards required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

National Bureau of Standards (NBS) Handbook:

H28—Screw-Thread Standards for Federal Services.

(Application for copies should be addressed to the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., 20402.)

American Standards Association (ASA) Publication:

ASA B7.1 - 1964—American Standard Safety Code for the Use, Care and Protection of Abrasive Wheels.

ASA B5.38 - 1958—Driving and Spindle Ends for Portable Air and Electric Tools.

(Application for copies should be addressed to the American Standards Association, 10 East 40th St., New York 16, N. Y.)

(Technical society and technical association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

3. REQUIREMENTS

3.1 Illustrations. The illustrations shown herein are descriptive, not restrictive, and are not intended to preclude the purchase of grinders otherwise conforming to this specification.

3.2 Qualification. Portable pneumatic grinders furnished under this specification shall be products which have been tested, and passed the qualification tests specified herein, and have been listed on or approved for listing on the applicable qualified products list.

3.3 Material. Material used in the construction of the grinders shall be of a good commercial quality suitable for the intended purpose. All materials used shall be free from defects and imperfections that may adversely affect the serviceability of the finished product.

3.4 Screw threads. Threaded parts, including screws, bolts, and nuts, shall conform to the applicable requirements of NBS H28.

3.5 Identification of product. Grinders shall be furnished with a nameplate. The nameplate shall be marked in a plain and permanent manner with the maximum speed at no load and the maximum diameter of the abrasive wheel recommended for use on the grinder. The nameplate shall have the manufacturer's model, type, or size designation, together with the manufacturer's name or a trademark of such known character that the source of manufacture may be easily determined.

3.6 Lubrication.

3.6.1 *Primary lubrication.* Grinders shall be provided with an oil reservoir. The oil reservoir shall be of sufficient capacity so that one filling will supply lubrication to the rotor, cylinder, and other moving parts in the path of the air stream for at least 8 hours of continuous operation. The oil shall be fed from the reservoir by an automatic device that functions through an action dependent upon the operation of the grinder. The oil flow shall be regulated so that lubrication will be sufficient without excessive quantities of lubricant being discharged from the grinder with the exhaust air.

3.6.2 *Secondary lubrication.* Conventional type lubricating fittings or openings or other suitable means shall be provided for introduction of sufficient lubricant for bearings, gears, and other moving parts not lubricated from the oil reservoir. The fittings and openings shall be such that lubrication is required only once in not less than 48 hours of actual operation. Where acceptable prelubricated sealed bearings are used, no external means of lubrication shall be required for these parts.

3.7 Air inlet connection. The air inlet connection shall consist of a well-secured ferrous

OO-G-669e
INTERIM AMENDMENT-3(NAVY-Ships)
July 22, 1971 1/
SUPERSEDING
INTERIM AMENDMENT-2(NAVY-Ships)
December 15, 1969

INTERIM AMENDMENT

TO

FEDERAL SPECIFICATION

GRINDER, PNEUMATIC, HORIZONTAL AND VERTICAL

This interim amendment was developed by the Department of the Navy, Naval Ship Engineering Center, Center Building, Hyattsville, Maryland 20782, based upon currently available technical information. It is recommended that Federal agencies use it in procurement and forward recommendations for changes to the preparing activity at the address shown above.

The General Services Administration has authorized the use of this interim amendment as a valid exception to Federal Specification OO-G-669e and Amendment-1 dated May 24, 1968.

Page 1

1.2.1: Under type I, size, delete "2 inch" and "2-1/2 inches" and substitute the following:

"2 inch
Style 1 - Extended spindle.
Style 2 - Short spindle.
2-1/2 inch
Style 1 - Extended spindle.
Style 2 - Short spindle."

2.1: Add:

"Federal Specification:
FPP-P-40 - Packaging and Packing of Hand Tools."

2.1: Delete:
"Federal Standard:
Federal Standard No. 123 - Marking for Domestic Shipment (Civilian Agencies).

Military Specification:
MIL-P-12829 - Packaging of Pneumatic Hand Tools with Attachments and Accessories.

Military Standard:
MIL-STD-129 - Marking for Shipment and Storage."

1/ CHANGES FROM PREVIOUS ISSUE. THE OUTSIDE MARGINS OF THIS DOCUMENT HAVE BEEN MARKED "#" TO INDICATE WHERE CHANGES (DELETIONS, ADDITIONS, ETC.) FROM THE PREVIOUS ISSUE HAVE BEEN MADE. THIS HAS BEEN DONE AS A CONVENIENCE ONLY AND THE GOVERNMENT ASSUMES NO LIABILITY WHATSOEVER FOR ANY INACCURACIES IN THESE NOTATIONS. BIDDERS AND CONTRACTORS ARE CAUTIONED TO EVALUATE THE REQUIREMENTS OF THIS DOCUMENT BASED ON THE ENTIRE CONTENT AS WRITTEN IRRESPECTIVE OF THE MARGINAL NOTATIONS AND RELATIONSHIP TO THE LAST PREVIOUS ISSUE.

2.2: Delete in its entirety all reference to "American Standards Association (ASA) Publications" and substitute the following:

"AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
ANSI B5.38-1958 - Driving and Spindle Ends For Portable Air and Electric Tools.
ANSI B7.1-1970 - American Standard Safety Code for the Use, Care and Protection of Abrasive Wheels.
ANSI S5.1-1971 - Test Code for the Measurement of Sound from Pneumatic Equipment.

(Copies may be obtained from the American National Standards Institute, Inc., 1430 Broadway, New York, New York 10018.)"

3.2: Delete and substitute:

"3.2 Qualification. Portable pneumatic grinders furnished under this specification shall be products which are qualified for listing on the applicable qualified products list at the time set for opening of bids (see 4.2 and 6.3)."

3.3: Delete and substitute:

"3.3: Materials. The materials used in the construction of items and components shall be sound, of uniform quality and condition, and shall conform in composition, heat treatment, and suitability to the standard practices of manufacturers producing tools of the types required in this specification. Equipment and parts shall be new and high grade commercial quality."

3.6., 3.6.1, and 3.6.2: Delete and substitute:

"3.6 Lubrication.

"3.6.1 Primary lubrication. Grinders shall be provided with an oil reservoir, either built-in or of the airline lubricator type. Capacity of the reservoir shall assure metered lubrication of all moving parts in the air stream, from one filling, for a minimum operating period of 8 hours.

"3.6.2 Secondary lubrication. Grinders requiring periodic lubrication of parts other than those in the air stream shall be provided with external means of applying the required lubricant without disassembling the tool."

After 3.9, add the following as 3.9.1:

"3.9.1 Sound pressure level. The sound pressure level shall not exceed 95 dbA for all sizes in any prescribed microphone location."

3.17.1: Delete and substitute:

"3.17.1 Styles and handles. Size 2 inch and 2-1/2 inch grinders shall be style 1 or 2. Style 1 grinders shall have an extended spindle enclosed in a metal housing. The outside dimension of the extension housing shall not exceed 2 inches; the length shall be not less than 2 inches and the shape shall be such as to afford a grip for two-hand operation of the tool. Style 2 grinders shall have a short spindle with the abrasive wheel adapter close-coupled to the body of the grinder and without an intentional extension. Grinder sizes larger than 2-1/2 inches shall be provided with either a straight or spade handle, as specified (see 6.2) and the housing at the spindle end shall be of such shape as to function as a handgrip for two-hand operation of the tool."

4.1: Delete and substitute:

"4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements."

4.2, line 3: Delete "Bureau of Ships" and substitute "Naval Ship Engineering Center".

4.2, line 9: Delete "Provisions Governing Qualification" and substitute "Provisions Governing Qualification SD-6".

Add the following paragraphs:

"4.6.3 Sound pressure level test. Sound pressure levels shall be taken at an unobstructed distance of one meter from the tool, both in the "free running" and "on load" conditions. The sound pressure level test shall be conducted in accordance with the applicable provisions of ANSI S5.1, except as modified herein. The acceptable limits shall be as specified in 3.9.1.

"4.6.3.1 Acoustical calibration. The entire instrumentation system shall be calibrated before each test series, allowing a minimum instrument warmup period of 5 minutes if transistorized and 1/2 hour if vacuum tube. Recalibration shall be performed if any instrument adjustment is necessary during progress of the test.

"4.6.3.2 Background sound level. The ambient noise level shall be at least 10 dbA less than the measurement taken with the tool running, in all tool and microphone orientations. In addition, the sound produced by the energy absorbing device, used in the "on load" test, must be at least 10 dbA below the machine's own sound output."

Paragraphs 5.1, 5.2, 5.2.1, 5.2.2: Delete and substitute:

"5.1 Preservation, packaging, packing, and marking. Grinders shall be preserved, packaged, packed, and marked in accordance with PPP-P-40 as specified for the applicable level."

Add the following new paragraph:

"6.1.3 Maximum sound pressure levels have been set to insure against occupational noise-induced hearing losses. The tools covered by this specification are considered to be used in bursts of 20 minutes duration with 5 minutes off between bursts over an exposure period of 8 hours."

6.2, (b): Delete and substitute:

"(b) Type, size, style, if applicable, and handle configuration required (see 1.2.1, 3.17.1 and tables I and III as applicable).

6.2, (g): Delete and substitute:

"(g) Marking requirements (see 5.1)."

6.3: Delete and substitute:

"6.3 With respect to products requiring qualification, awards will be made only for products which are at the time set for opening of bids, qualified for inclusion in applicable Qualified Products List QPL OO-G-669, whether or not such products have actually been so listed by that date. The attention of the suppliers is called to this requirement, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification in order that they may be eligible to be awarded contracts or orders for the products covered by this specification. The activity responsible for the Qualified Products List is the Naval Ship Engineering Center, Prince George's Center,

Center Building, Hyattsville, Maryland 20782, and information pertaining to qualification of products may be obtained from that activity. Application for Qualification tests shall be made in accordance with "Provisions Governing Qualification SD-6" (see 6.4)."

Add the following as 6.4:

"6.4 Copies of "Provisions Governing Qualification SD-6" may be obtained upon application to Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, Pennsylvania 19120."

Preparing activity:
Navy - SH
(Project 5130-N208)

FEDERAL SPECIFICATION

GRINDER, PNEUMATIC
HORIZONTAL AND VERTICAL

This amendment which forms a part of Federal Specification GG-G-669e, dated April 10, 1967, was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

PAGE 2

Paragraph 2.2: Delete in its entirety all reference to "American Standards Association (ASA) Publications" to end of paragraph ending with "agencies.)" and substitute:

United States of America Standard Institute (USASI) Standards:
B7.1-1964 - American Standard Safety Code for the Use, Care, and Protection of Abrasive Wheels.

(Applications for copies should be addressed to the United States of America Standard Institute, 10 E. 40th St., New York, N.Y. 10016.)

(Technical society and technical association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.

PAGE 3

Paragraphs 3.12 and 3.13: Delete "ASA B5.38 and ASA B7.1" and substitute "USASI B7.1".

PAGE 5

Paragraphs 3.17.3 and 3.18.3: Delete in their entirety.

PAGE 7

Table V, item 1, line 2: Delete "ASA" and substitute "USASI".

Table V, item 14, line 1: Delete "not type specified".

PAGE 8

Paragraph 6.2 (e): Delete in its entirety.

☆ U. S. GOVERNMENT PRINTING OFFICE: 1968 O - 342-501 (3021)

FSC 5130

fitting, threaded with internal American Standard taper pipe threads (NPT) or internal Dryseal American Standard taper pipe threads (NPTF). The air inlet shall be fitted with an air strainer or screen which shall be effective in retaining solid particles in the compressed air supply. The strainer or screen shall be of such design that it can be easily removed for cleaning.

3.8 **Bearings.** All rotating parts of the grinder shall be provided with commercially available rolling contact bearings. The rotor shaft shall be provided with ball bearings. Needle and roller bearings, which are primarily designed for radial loads, shall not be used in a thrust position. If open type bearings are used, they shall be suitably housed and adequately sealed to prevent leakage of lubricant and entrance of dirt and dust.

3.9 **General construction.** Grinders shall be of rugged construction so as to withstand, without failure, treatment likely to be encountered under general service conditions. Grinders shall be self-contained, readily accessible for adjustment or replacement of parts. Parts which require lubrication shall be properly enclosed so as to prevent entrance of foreign particles and leakage of lubricant. Working parts exposed to wear shall be of sufficient hardness to withstand the service required. Parts shall be properly finished by machining or grinding to dimensions within limits established by good commercial practice. Similar parts shall be interchangeable and of good fit when assembled with relative parts of the same size, type, and make. Grinders shall be reliable and effective when operated on compressed air lines at gage pressures between 80 and 100 pounds per square inch (p.s.i.).

3.10 **Housing.** Housings shall be strong enough to prevent indentation under service conditions. When threaded fasteners are utilized to assemble adjacent housing components, through bolting shall be used in preference to tapped holes. Capscrews, if used, shall engage threads in ferrous housings or ferrous inserts in nonferrous housings by not less than a length equal to the pitch diameter of the fastener thread. Where ferrous inserts are not used in nonferrous housings, capscrews shall engage threads by not less than a length equal to 1-1/2 times the pitch diameter of the fastener thread. All threaded fasteners shall be secured with suitable locking devices.

3.11 **Motor.** The motor shall be of the rotary vane type. The rotor shall consist of one or more elements accurately balanced with the rotor shaft, and shall be propelled by compressed air through the attendant action of vanes or blades made of suitable composition.

3.12 **Spindle arbors.** Spindle arbors shall be of the size specified (see tables I and III) and shall conform to the applicable requirements of ASA B5.38.

3.13 **Abrasive wheel guards and flanges.** Each grinder shall be furnished with wheel guards and flanges conforming to ASA B7.1. They shall be suitable for use with the maximum diameter and thickness grinding wheel to be used with the grinder specified.

3.14 **Throttle.** Grinders shall be provided with a nonleakable, manual throttle for admitting and shutting off the supply of compressed air. The throttle shall be conveniently located for easy manipulation by the operator while both hands hold the grinder in the operating position.

3.15 **Speed regulation.** Except as specified in 3.17.2, grinders shall be provided with a governor to automatically regulate the speed of the rotor. The governor shall prevent excessive speed when the spindle is free of load, and maintain efficient operating speeds under all normal loads applied to the abrasive wheel. In the event of failure of the governor or any of its parts, the spindle shall not maintain dangerously high speeds. At all normal loads, the spindle speed shall be controlled so that there will be no abrupt

TABLE I. *Type I, horizontal grinders, dimensional and weight requirements*

Size of grinder	Maximum wheel capacity (inches)						Air inlet nominal pipe size	Standard spindle arbor dia.	Maximum weight[1]
	Peripheral grinding straight type				Radial wire brush	Buffing wheel			
	Hard organic bond		Vitrified bond						
Inches	*Diameter*	*Thickness*	*Diameter*	*Thickness*	*Diameter*	*Diameter*	*Inch*	*Inch*	*Pounds*
2	2	1/2	1-1/2	1/2	—	—	1/4 or 3/8	3/8	5
2-1/2	2-1/2	1/2	1-3/4	1/2	—	—	1/4 or 3/8	3/8	5
3	3	1/2	2	1/2	—	—	3/8 or 1/2	3/8	6
4	4	1	3	1	4	—	3/8 or 1/2	5/8	10
6	6	1	4	1	6	6	3/8 or 1/2	5/8	12
8	8	1	5	1	8	8	3/8 or 1/2	5/8	16

[1] Without abrasive wheel, wheel guard, or wheel flanges.

TABLE II. *Performance requirements for types I and II grinders*

Size of grinder			At specified torque		At no load	
Type I, horizontal	Type II, vertical	Specified torque	Speed (min.)	Air consumption (max.)	Speed (max.)	Air consumption (max.)
Inches	*Inches*	*Ft. lbs.*	*R.p.m.*	*Cu. ft./min./hp.*	*R.p.m.*	*Cu. ft./min.*
2		0.15	11,000	80	18,500	32
2-1/2		.20	9,500	65	15,000	27
3		.65	6,000	60	12,000	35
	4	1.5	6,000	50	9,000	45
4		1.6	6,000	40	9,100	52
6		2	5,000	30	6,200	37
	6-(heavy duty)	3	3,500	35	4,700	30
	6-(standard duty)	2	4,500	35	6,000	30
8		3	3,500	30	4,600	30

or erratic variations affecting grinding operations.

3.16 **Method of drive.** The rotor and abrasive wheel spindle shall be directly coupled, with no intermediate gearing, so that the speed of both is the same.

3.17 **Type I, horizontal grinders.** Type I grinders shall be similar to figure 1 and shall conform to the applicable requirements of tables I and II.

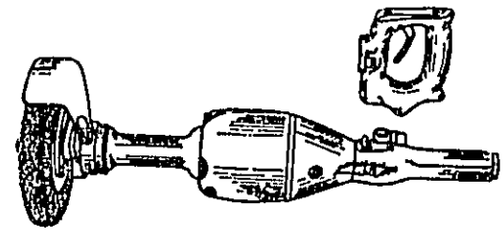


FIGURE 1. Type I, horizontal grinder.

3.17.1 *Handles.* Grinders, except sizes 2 and 2-1/2 inch, shall be provided with either a straight or spade handle. The housing at the spindle end of grinders, 9 inches or more in length, shall be of such shape as to per-

mit a secure handgrip. The bodies of sizes 2- and 2-1/2-inch grinders shall be of such shape as to permit a secure comfortable handgrip.

3.17.2 *Speed regulation.* Grinders shall be equipped with a governor in accordance with 3.15, except that sizes 2- and 2-1/2-inch grinders may be designed to inherently regulate the supply of air to limit the spindle speed at no load. The spindle speed at no load shall be in accordance with the maximum allowable no load speed specified in table II when supplied with air at a gage pressure of 90 pounds p.s.i. (see 4.6.1).

3.17.3 *Throttles.* Horizontal grinders shall be furnished with lever-style throttles, unless otherwise specified (see 6.2).

3.18 **Type II, vertical grinders.** Type II grinders shall be similar to figure 2 and shall conform to the applicable requirements of tables II and III.

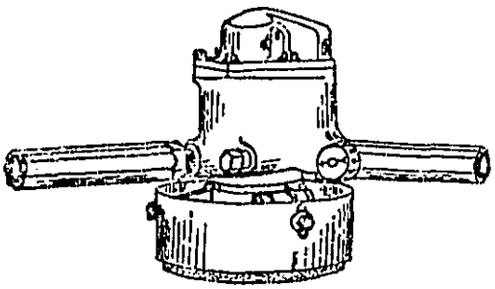


FIGURE 2. Type II, vertical grinder.

3.18.1 *Spindle arbor.* Spindles shall be adaptable for use with depressed center abrasive wheels, cup-type wire brushes, and sanding pads.

3.18.2 *Handles.* Vertical grinders shall have two straight handles whose longitudinal axis shall be parallel to the grinding face of the abrasive wheel. Handles shall be located at such an angle from each other as to facilitate handling and operation of the grinder when in use.

3.18.3 *Throttles.* Unless otherwise specified (see 6.2), vertical grinders shall be furnished with thumb-flip (butterfly) throttles.

3.19 **Accessories or extra equipment.** When accessories or extra equipment are required, they shall be as specified (see 6.2).

3.19.1 *Belt grinding attachment.* When a belt grinding attachment is required, the length and width of the belt accommodated shall be as specified (see 6.2). The belt grinding attachment shall consist of an offset bracket, driver wheel, contact wheel, offset shaft, and other parts needed for operation.

3.20 **Instruction book.** One copy of an instruction book consisting of the manufacturer's standard commercial instructions and parts list, bound together, shall be furnished with each grinder.

TABLE III. *Dimensional and weight requirements for type II vertical grinders*

Size of grinder	Maximum capacity (inches)					Air inlet nominal pipe size	Standard spindle arbor thread (UNC series)	Maximum[1] weight
	Cup-type wheel		Cup-type wire brush	Sanding disc	Depressed center abrasive wheel			
	Resinoid and rubber bond	Vitrified bond						
Inches	*Diameter*	*Diameter*	*Diameter*	*Diameter*	*Diameter*	*Inch*	*In. thd.*	*Pounds*
4	4	—	5	5	—	3/8 or 1/2	5/8	8
6 (standard duty)	6	4	6	7	7	do.	5/8	9
6 (heavy duty)	6	5	6	9	9	do.	5/8	12-1/2

[1] Without abrasive wheel, wheel guard, or wheel flange.

3.21 Workmanship. The grinder and accessories shall be free from all imperfections which may adversely affect the general appearance, function, or serviceability.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own facilities or any commercial laboratory acceptable to the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

4.1.1 *Inspection of materials and components.* In accordance with 4.1, the supplier is responsible for insuring that materials and components used were manufactured, tested, and inspected in accordance with the requirements of referenced subsidiary specifications and standards to the extent specified herein, or, if none, in accordance with this specification.

4.2 Qualification testing. Qualification testing shall be conducted at a laboratory satisfactory to the Bureau of Ships. Qualification tests shall consist of the tests specified in 4.3. Tests shall be conducted on each type and size of grinder for which qualification is desired. Application for qualification tests shall be made in accordance with "Provisions Governing Qualification" (see 6.3).

4.3 Qualification tests.

4.3.1 *Service test.* Upon satisfactory completion of the examination specified in 4.5 and the performance tests specified in 4.6, the grinder shall satisfactorily complete 150 hours of actual work under practical service conditions. The test shall determine the ease of operation, general serviceability, and durability of the tool. Failure during the service tests of any components of the tool, exclusive of abrasive wheels, sanding discs, and wire brushes, shall be cause for failing the qualification test.

4.3.2 *Examination after service test.* Upon completion of the service test, the tool shall be disassembled and the various parts examined. Any tools having broken, cracked, or deformed parts shall be cause for failing the qualification tests. Tools satisfactorily completing the service test shall again be subjected to the performance tests specified in 4.6.

4.4 Quality conformance inspection procedures. Sampling procedures shall be in accordance with MIL-STD-105. Data for sampling shall be as stated in table IV.

4.5 Examination.

4.5.1 *Visual examination.* Each sample unit shall be examined for any nonconformance in design, material, finish, coating, construction, workmanship, and marking. Defects are listed in table V.

TABLE IV. *Sampling data*

Category	Sample unit	Inspection level	Acceptable quality level	AQL expressed in terms of	Reference
Visual examination	1 complete grinder or accessories	S-4	2.5	Defects per hundred units	4.5.1
Dimentional and weight examination	1 complete grinder	S-4	4.0	Defects per hundred units	4.5.2
Testing	1 complete grinder	S-2	6.5	Defects per hundred units	4.7
Preparation for delivery	1 grinder prepared for delivery	II	4.0	Defects per hundred units	4.8

TABLE V. *Classification of defects*

	Defects
1	Arbors, guards, and flanges do not conform to ASA Safety Code.
2	Type and size not as specified.
3	Grinder not readily adjustable or parts not readily replaceable.
4	Motor not rotary vane type.
5	Material nonconforming; evidence of unauthorized material used.
6	Lubricated parts enclosure nonconforming.
7	Nuts or bolts not secured by a suitable locking device.
8	Component part missing.
9	Similar parts not dimensionally and functionally interchangeable.
10	Air inlet connection not as specified, damaged, or missing.
11	Air strainer missing or damaged, not readily removable.
12	Nameplate nonconforming, illegible, incorrect, or missing.
13	Handles not as specified, or damaged.
14	Throttle nonconforming, not type specified, damaged, inoperable, or missing.
15	Spindle not as specified, dimensioning not within specified tolerances.
16	Rotor nonconforming or damaged.
17	Bearings not as specified, broken, cracked, or pitted.
18	Lubrication of grinder not as specified; evidence of oil leakage.
19	Method of drive nonconforming.
20	Accessories or extra equipment not as specified.

4.5.2 *Dimensional and weight examination.* Each sample unit shall be examined for any nonconformance with dimensional and weight requirements.

4.6 Test procedures.

4.6.1 *Performance test conditions.* All performance tests shall be based on operation of the tools with compressed air at a gage pressure of 90 pounds p.s.i., measured as close to the grinder as practicable. Test tools shall be connected to the air supply by means of a 10-foot length of 5/8-inch inside diameter hose provided at the tool and with a coupling conforming to table VI.

TABLE VI. *Coupling requirements*

Air inlet connection nominal pipe size	Inside diameter of hose coupling
Inch	*Inch*
1/4	0.250
3/8	.375
1/2	.500

4.6.2 *Air consumption, speed and torque.* Grinders shall be subjected to a test to determine compliance with the requirements for air consumption, speed, and torque. The speed test shall also verify compliance with 3.15.

4.7 **Examination of preparation for delivery.** An examination shall be made to determine that preservation, packing, and marking as required by section 5 are complied with. Defects shall be scored as specified in the following table.

Examine	Defects
Markings (exterior and interior)	Omitted; incorrect; illegible; or improper size, location, sequence, or method of application.
Preservation	Preservative improperly applied or missing.
Weight	More than specified.
Workmanship	Loose strapping, flaps not sealed.

5. PREPARATION FOR DELIVERY

5.1 **Preservation, packaging, and packing.** Grinders shall be preserved, packaged, and packed in accordance with MIL-P-12829, as specified for the applicable level.

5.2 **Marking.**

5.2.1 *Military requirements.* Interior packages and shipping containers shall be marked in accordance with MIL-STD-129.

5.2.2 *Civil agency requirements.* Interior packages and shipping containers shall be marked in accordance with Fed. Std. No. 123.

6. NOTES

6.1 **Intended use.**

6.1.1 *Type I.* Type I, horizontal grinders shall be suitable for grinding with a

straight-type, hard, organic bond abrasive wheel and shall be suitable for use with radial-type and cup-type wire brushes. The 2- and 2-1/2-inch size grinders shall be used primarily for close quarter and internal work, such as in grinding the inside of welded pipe flanges, small radii, and corners. The 4-, 6-, and 8-inch size grinders shall be used primarily for grinding rough edges of plates, shapes, and castings.

6.1.2 *Type II.* Type II, vertical grinders shall be suitable for grinding and snagging with cup-type or depressed center abrasive wheels, and for use of cup-type brushes and sanding discs.

6.2 **Ordering data.** Purchasers should select the preferred options offered herein and include the following information in procurement documents:

(*a*) Title, number, and date of this specification.
(*b*) Type and size required (see 1.2.1 and tables I and III, as applicable).
(*c*) Accessories or extra equipment required (see 3.19).
(*d*) When belt grinding attachment is required and length and width of belt accommodated (see 3.19.1).
(*e*) Type of throttle required if different (see 3.17.3 and 3.18.3).
(*f*) Selection of applicable levels of preservation, packaging, and packing (see 5.1).
(*g*) Marking requirements (see 5.2).

6.3 With respect to products requiring qualification, awards will be made only for such products as have, prior to the time set forth for opening of bids, been tested and approved for inclusion in Qualified Products List (QPL) OO-G-669, whether or not such products have actually been so listed by that date. The attention of the suppliers is called to this requirement, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification, in order that they may be eligible to be awarded contracts or orders for the products covered by this specification. The activity responsible for the qualified products list is the Naval Ship Engineering Center, Department of the Navy, Washington, D.C., 20360, and information pertaining to qualification of products may be obtained from that activity. Application for qualification tests shall be made in accordance with "Provisions Governing Qualification." (Copies may be obtained from the Commanding Officer, Naval Supply Depot, 5801 Tabor Ave., Philadelphia, Pa., 19120.)

MILITARY CUSTODIANS:
Army—GL
Navy—SH
Air Force—69

Review activities:
Army—GL
Navy—SH, YD
Air Force—69

User activity:
Army—MO, WC

Preparing activity:
GSA—FSS

☆ U.S. GOVERNMENT PRINTING OFFICE: 1967—253364/264

Orders for this publication are to be placed with General Services Administration, acting as an agent for the Superintendent of Documents. See section 2 of this specification to obtain extra copies and other documents referenced herein. Price 5 cents each.

OO-D-691d
February 28, 1967
SUPERSEDING
Int. Fed. Spec. OO-D-00691c (GSA-FSS)
May 12, 1965 and
Fed. Spec. OO-D-691a
November 5, 1957

FEDERAL SPECIFICATION

DRILL, PNEUMATIC, PORTABLE; AND BORER, WOOD, PNEUMATIC

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers portable pneumatic drills and pneumatic wood borers, for drilling holes in medium steel and in wood, that are most generally used by the Federal Government.

1.2 Classification.

1.2.1 Types and styles. Portable pneumatic drills and pneumatic wood borers shall be of the following types and styles, as specified (see 6.2):

Type I—Drills.

Style A—90° angle head.

Style B—360° angle head.

Style C—Straight drive.

Type II—Wood borers.

Type III—Corner drills.

2. APPLICABLE DOCUMENTS

2.1 Specifications and standards. The following specifications and standards, of the issues in effect on date of invitation for bids, or request for proposal, form a part of this specification to the extent specified herein:

Federal Specification:

GGG-C-350—Chuck, Drill; and Arbors and Keys, Drill Chuck.

Federal Standard:

Fed.-St. No. 123—Marking for Domestic Shipment (Civilian Agencies).

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications and Standards and at the prices indicated in the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

(Single copies of this specification and other product specifications required by activities outside the Federal Government for bidding purposes are available without charge at the General Services Administration Regional Offices in Boston, New York, Washington, D.C., Atlanta, Chicago, Kansas City, Mo., Dallas, Denver, San Francisco, Los Angeles, and Seattle, Wash.

(Federal Government activities may obtain copies of Federal Specifications, Standards, and Handbooks and the Index of Federal Specifications and Standards from established distribution points in their agencies.)

Military Specification:

MIL-P-12829—Packaging of Pneumatic Hand Tools with Attachments and Accessories.

Military Standards:

MIL-STD-105—Sampling Procedures and Tables for Inspection by Attributes.

MIL-STD-129—Marking for Shipment and Storage.

(Copies of Military Specifications and Standards required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

National Bureau of Standards NBS Handbook:

H28—Screw Thread Standards for Federal Services.

(Application for copies should be addressed to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402.)

American Standards Association (ASA) Publication:

B5-10—Machine Tapers; Self-Holding and Steep Taper Series.

(Copies may be obtained from the American Standards Associations, 70 E. Forty-fifth St., New York 7, N. Y.)

(Technical society and technical association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

3. REQUIREMENTS

3.1 Illustrations. The illustrations shown herein are descriptive and not restrictive, and are not intended to preclude the purchase of drills and borers otherwise conforming to this specification.

3.2 Qualification. Drills and borers furnished under this specification shall be products which have been tested and passed the qualification tests specified herein, and have been listed on or approved for listing on the applicable qualified products list.

3.3 Material. Material used in the construction of drills and borers shall be of a good commercial quality suitable for the intended purpose. All materials used shall be free from defects and imperfections that may adversely affect the serviceability of the finished product.

3.4 Interchangeability. All parts having the same manufacturer's part number shall be constructed to definite standards, tolerances, and clearance in order that such parts may be completely interchangeable and may be replaced or adjusted without requiring modification.

3.5 Screw threads. All threaded parts, including screws, bolts, and nuts, shall conform to the applicable requirements of NBS H28.

3.6 Identification of product. Drills and borers shall be marked in accordance with manufacturer's standard practice so that the part number and source of manufacture can be easily determined.

3.7 Lubrication.

3.7.1 Primary lubrication. Drills and borers shall be furnished with an oil reservoir. The oil reservoir shall be of sufficient capacity so that one filling will supply lubrication to the rotor, cylinder, and

other moving parts in the path of the air stream for at least 8 hours of continuous operation. The oil shall be fed from the reservoir by an automatic device that functions through an action dependent upon the operation of the drill or borer. The oil flow shall be regulated so that lubrication will be sufficient without excessive quantities of lubricant being discharged with the exhaust air.

3.7.2 Secondary lubrication. When required, conventional type lubrication fittings or openings or other suitable means shall be provided for introduction of sufficient lubricant for bearings, gears, and other moving parts not lubricated from the oil reservoir. Lubrication shall be required only once in not less than 48 hours of actual operation. No external means of lubrication shall be required for prelubricated sealed bearings.

3.8 Air inlet connection. The air inlet connection shall consist of a well secured ferrous fitting threaded with internal American standard taper pipe threads (NPT) or internal dryseal American standard taper pipe threads (NPTF). The air inlet shall be fitted with an air strainer or screen (20 mesh or finer) which shall effectively retain solid particles in the compressed air supply. The strainer or screen shall be of such design that it can be easily removed for cleaning.

3.9 Bearings. Except as otherwise specified herein, all rotating parts shall be provided with commercially available bearings. Roller bearings, which are designed primarily for radial loads, shall not be used in a thrust position. Open type (needle) bearings shall be suitably housed and sealed to prevent leakage of lubricant and entrance of dirt and dust. If sleeve bearings are used, they shall be the sintered, metal powder, oil-impregnated type.

3.10 General construction. Drills and borers shall be of rugged construction so as to withstand, without failure, treatment likely to be encountered under general service conditions. Drills and borers shall be self contained, readily accessible for adjustment or replacement of parts. Parts which require lubrication shall be properly enclosed so as to prevent entrance of foreign particles and leakage of lubricant. Working parts exposed to wear shall be of sufficient hardness to withstand the service required. Parts shall be properly finished by machining or grinding to dimensions within limits established by good commercial practice. Drills and borers shall be reliable and effective when operated on compressed air lines at gage pressures between 80 and 100 pounds per square inch p.s.i. Reversible drills and borers shall be furnished with a conveniently located mechanism for reversing the rotation of the spindle.

3.11 Housing. Housings shall be strong enough to prevent breakage or indentation under service conditions. When threaded fasteners are utilized to assemble adjacent housing components through bolting shall be used in preference to tapped holes. Cap screws, if used, shall engage threads in ferrous housings or ferrous inserts in nonferrous housings by not less than a length equal to the pitch diameter of the fastener thread. Where ferrous inserts are not used in nonferrous housings, cap screws shall engage threads by not less than a length equal to 1-1/2 times the pitch diameter of the fastener thread. All threaded fasteners shall be secured with suitable locking devices.

3.12 Motor. The motor shall be of the rotary vane type. The rotor of the motor shall consist of one or more elements accurately balanced with the rotor shaft and shall be propelled by compressed air through the attendant action of vanes or blades made of suitable composition.

3.13 Speed. The no-load speed of the drills and borers shall be automatically regulated, consistent with the requirements stated herein. There shall be no abrupt or erratic speed variations affecting drilling and boring operations when tested in accordance with 4.8.

3.14 Handles. The handles of drills and borers shall be as specified herein.

3.15 Throttle. Drills and borers shall be provided with a nonleakable manual throttle for admitting and shutting off the supply of compressed air, and for gradually regulating the speed of the tool. The throttle of drills and borers shall be as specified herein.

3.16 Spindle. Taper spindles shall conform to ASA B5–10 for the size specified herein for drills and borers, as applicable. The spindle for drills and borers shall be as specified herein.

3.17 Type I drills. Type I drills shall be suitable for drilling holes in medium steel with the size high speed twist drill of a diameter corresponding to the size of the drill. Unless otherwise specified

(see 6.2), the drills shall be nonreversible, shall conform to the requirements in table I for the size specified (see 6.2), and shall conform to performance characteristics specified in table II. Reversible drills shall conform to the performance characteristics specified in table II, except that the speed at specified torque shall be determined by multiplying a factor of 3/5 to the value specified and the air consumption at specified torque shall be determined by multiplying a factor of 5/3 to the specified value (in both directions).

Table I. Type I drills, sizes, and capacities

Size	At spindle	Air inlet connection nominal pipe size	Weight (max.)
		Inch	Pounds
1/4-high speed	1/4-inch chuck[1]	1/4	4-1/4
1/4-medium speed	1/4-inch chuck[1]	1/4	6
1/4-low speed	1/4-inch chuck[1]	1/4	6
3/8-high speed	3/8-inch chuck[1]	1/4	8
3/8-medium speed	3/8-inch chuck[1]	1/4	8
1/2	No. 2 ASA Morse taper socket	1/2 or 3/8	15[2]
7/8	No. 3 ASA Morse taper socket	1/2 or 3/4	26
1-1/4	No. 4 ASA Morse taper socket	1/2 or 3/4	39
2	No. 5 ASA Morse taper socket	3/4 or 1	45
3	No. 5 ASA Morse taper socket	3/4 or 1	85

[1] For type of spindle on which chuck is mounted, see 3.17.6.1.
[2] If furnished with chuck, add 2 pounds.

Table II. Type I drills—performance characteristics

Size of drill	Specified torque	At specified torque		At no load	
		Speed (min.)	Air consumption (max.)	Speed (max.)	Air Consumption (max.)
Inches	Ft. lbs.	R.P.M.	Cu. ft./min./h.p.	R.P.M.	Cu. ft./min.
1/4-high speed	0.75	1,400	70	3,200	26
1/4-medium speed	2.0	950	65	2,200	38
1/4-low speed	2.6	500	40	1,000	30
3/8-high speed	2.5	700	75	1,600	35
3/8-medium speed	6.0	450	65	900	40
1/2	10	500	40	1,000	35
7/8	30	300	35	500	35
1-1/4	50	290	37	450	60
2	80	150	37	300	60
3	200	100	38	150	80

3.17.1 Style A, 90° angle head. Style A drills shall be furnished with a 90° angle head and shall be similar to figure 1.

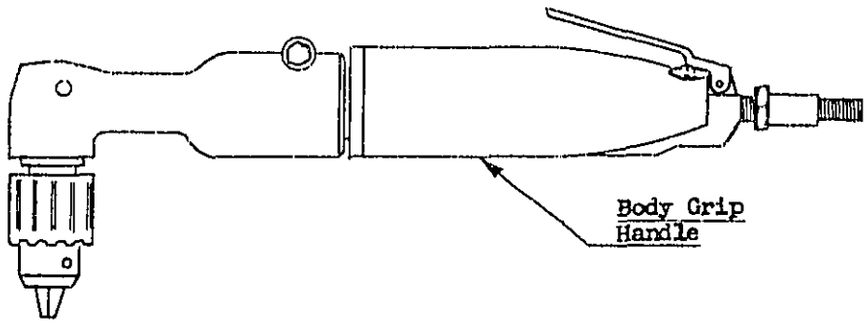


Figure 1. Type I, style A, 90° angle head drill.

3.17.2 Style B, 360° angle head. Style B drills shall be furnished with an adjustable 360° angle head in the 1/4-inch size only, and shall be similar to figure 2.

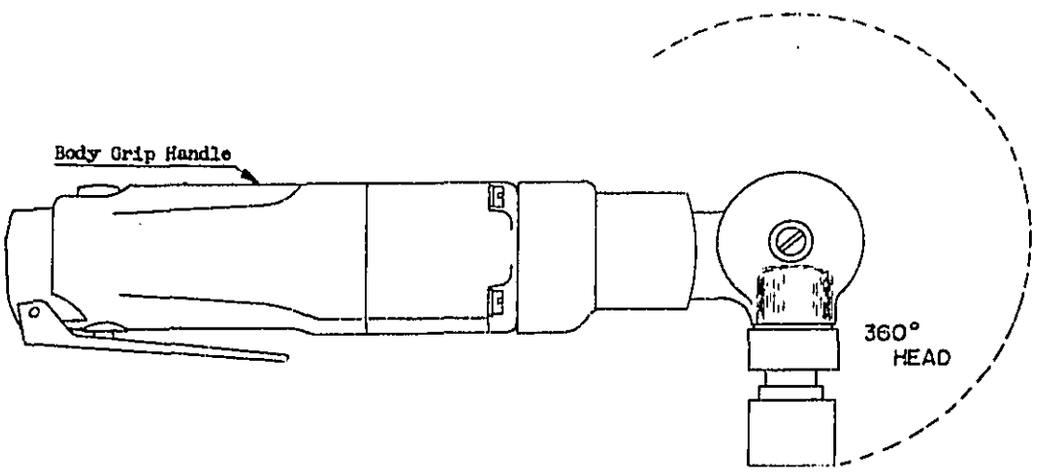


Figure 2. Type I, style B, 360° angle head drill.

3.17.3 Style C, straight drive. Style C drills shall be similar to figure 3. The 1/2-inch and larger drills shall be similar to figure 4.

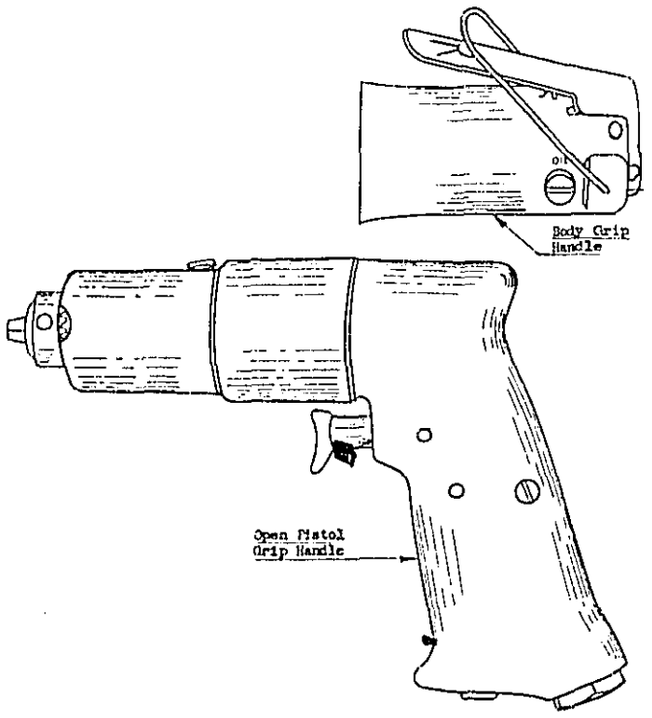


Figure 3. Type I, style C, straight drive drill, ¼- and ⅜-inch sizes.

3.17.4 Handles. Drills of 1/4- and 3/8-inch sizes shall be equipped with open pistol grip or body grip handles, as specified (see 6.2). Drills 1/2-inch size and larger shall have "live" handle and a "dead" handle secured to opposite sides of the housing perpendicular to the spindle axis. The "live" handle shall be provided at its outer end with an air inlet connection, as specified in table I. The "dead" handle shall be removable for operation in confined spaces.

3.17.5 Throttles. Drills of the 1/4-, 3/8-, and 1/2-inch sizes shall be provided with trigger, button, or lever style throttles. Drills 1/2-inch size and larger shall be provided with a lever or sleeve style throttle on the live handle.

3.17.6 Spindles (styles A and C).

3.17.6.1 Sizes 1/4- and 3/8-inch. Nonreversible 1/4-inch size drills shall be furnished with a 3/8–24 threaded spindle. Reversible 1/4 inch size drills shall be furnished with a number 1 male jacob taper spindle. Nonreversible 3/8 inch drills shall be furnished with a 1/2–20 threaded spindle. Reversible 3/8-inch size drills shall be furnished with a number 2 male jacob taper spindle.

3.17.6.2 Sizes 1/2-inch and larger. The drills shall be furnished with spindles having standard ASA Morse taper sockets as shown in table I.

3.17.7 Chucks.

3.17.7.1 Styles A and C, 1/4- 3/8-, and 1/2-inch sizes. The 1/4- and 3/8-inch size drills shall be furnished with medium duty (minimum) chucks, in accordance with GGG–C–350, type I, class 1

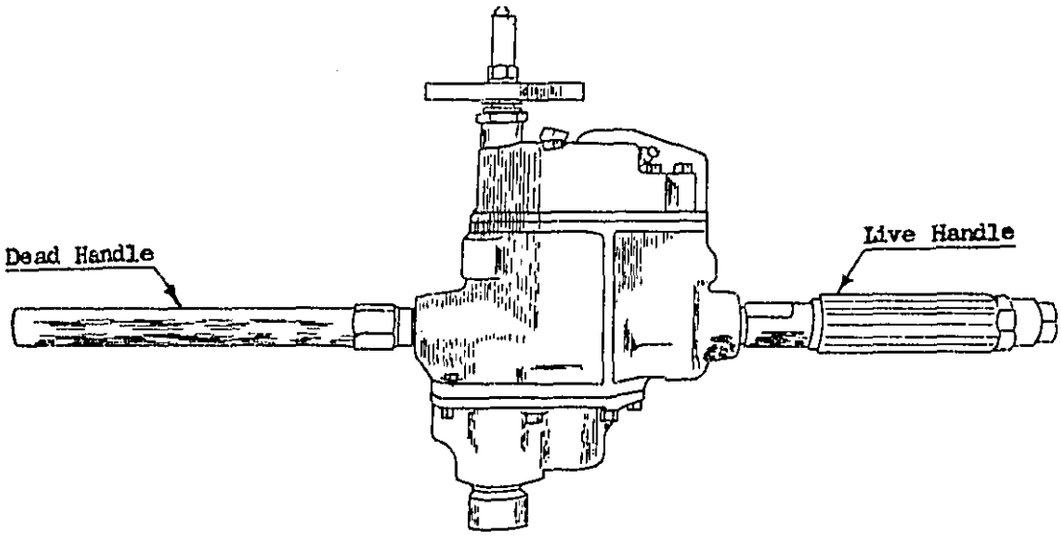


Figure 4. Type I, style C, straight drive drill, ½-inch size and larger.

or 2, as applicable (see 3.17.6.1). When specified (see 6.2), the 1/2-inch size shall be furnished with a medium duty (minimum) chuck in accordance with GGG-C-350, (size as specified).

3.17.7.2 Style B. The style B drill shall be furnished with a miniature, special-purpose, jaw-type chuck, with a 1/4-inch capacity. The chuck shall be capable of securely gripping standard straight-shank drills within its capacity. Suitable means shall be provided for manually loosening and tightening the drill chuck.

3.17.8 Feed screw. Unless otherwise specified (see 6.2), drills of 1/2-inch size and larger shall be equipped with feed screws having four radiating arms for handfeed control. The feed screw shall be of such design that it cannot be unintentionally screwed entirely out of the body of the drill. The feed screws shall be of such construction that there will be no unsteadiness when the drill is operated with the feed screw at its maximum extension. The end of the feed screw projecting into the body of the drill shall be fitted with an ejector for forcing tools out of the socket by turning the feed screw handle. Drills equipped with a socket external to the body of the drill shall have tool ejection accomplished by means of a driftpin. The outer or external end of the feed screws shall be fitted with a hardened steel center.

3.18 Type II wood borers. Wood borers shall be suitable for boring holes in dry, well seasoned oak hardwood with the maximum size of wood bit, in inches, corresponding to the rated size of the wood borer, when operated at an air pressure of 90 pounds p.s.i. Wood borers shall be reversible and shall be similar to figure 5, and shall conform to table III, in both directions.

3.18.1 Handles. Wood borers shall be equipped with a "live" handle, a "dead" handle, and a spade or breast handle. The "live" and "dead" handles shall be secured to opposite sides of the housing, perpendicular to the spindle axis. The "live" handle shall be provided at its outer end with an air inlet connection on nominal pipe size, as specified in table III. The "dead" handle shall be removable. The spade or breast handle shall be located at the end of the housing opposite the chuck and suitably in line with the axis of the chuck.

3.18.2 Throttle. Wood borers shall be provided with lever or sleeve style throttles on the "live" handle.

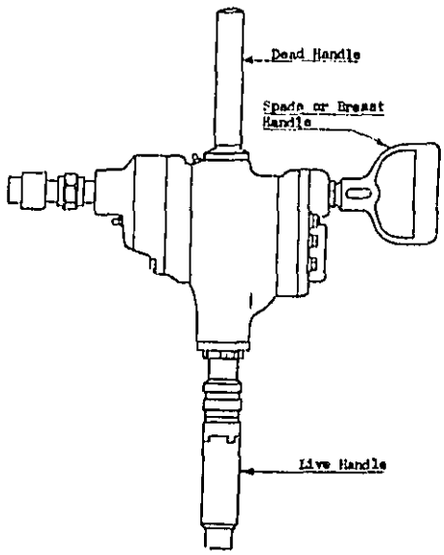


Figure 5. Type II, wood borers.

Table III. Type II, wood borers:
Dimensions and performance characteristics

Size	Chuck size for wood-bit shanks (Dia.)	At no-load		Horsepower (min.)	Air inlet connection nom. pipe size	ASA Morse taper socket in spindle	Weight (max.)
		Speed (max.)	Air consumption (max.)				
Inches	Inch	R.p.m.	C.f.m.		Inch	Number	Pounds
1	1/2	1,000	35	3/4	1/2	2	17
2	1/2	850	85	1-1/2	1/2 or 3/4	2	35
4	1/2	500	85	2	1/2 or 3/4	3	35

3.18.3 Spindle. Wood borers shall be equipped with spindles having standard A.S.A. (Morse) taper sockets of the sizes shown in table III, threaded externally on its outer end in accordance with the manufacturer's standard practice, and shall be furnished with hucks suitable for retaining shanks of the sizes shown in table III.

3.19 Type III corner drills. Corner drills shall be suitable for use in close places where an ordinary drill cannot be operated. Corner drills shall be constructed with the spindle at one end and the motor at the opposite end of the housing. Corner drills shall be similar to figure 6 and shall conform to the dimensions in table IV for the size specified (see 6.2). Corner drills shall be reversible and shall conform to the performance characteristics specified in table V, in both directions, and shall be furnished with a feed screw.

3.19.1 Handle. Corner drills shall be equipped with a "live" handle suitably in line with the longitudinal axis of the air motor and at the opposite end of the housing from the spindle. The handle shall be provided at its outer end with an air inlet connection of nominal pipe size, as specified in table IV.

3.19.2 Throttle. Corner drills shall be provided with a lever or sleeve style throttle on the "live" handle.

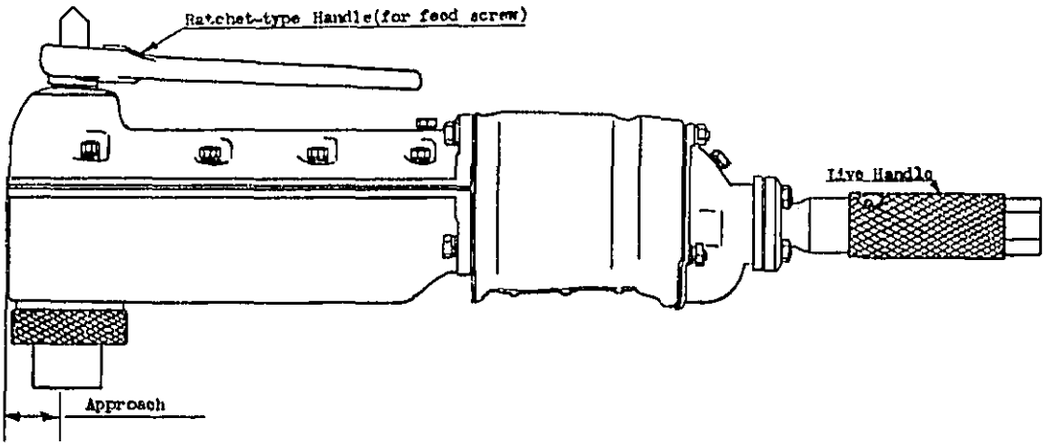


Figure 6. Type III, corner drills.

Table IV. Type III corner drills—dimensions

Size	A.S.A. (Morse) taper socket in spindle	Air inlet connection nominal pipe size	Weight (max.)	Approach (max.)
	Number	Inch	Pounds	Inches
7/8	3	1/2 or 3/4	40	1-9/16
1-1/4	4	1/2 or 3/4	50	1-9/16
3	5	1/2 or 3/4	60	2-3/8

3.19.3 Spindle. Corner drills shall be equipped with spindles having standard A.S.A. (Morse) taper sockets of the sizes shown in table IV.

3.19.4 Feed screw. Feed screws furnished with the corner drills shall conform to 3.17.8, except that the feed screw shall be actuated by a reversible ratchet-type handle or other suitable mechanism, operable within the width of the drill body, for hand-feed control.

Table V. Type III, corner drills—performance characteristics

Size	Specified torque	At specified torque		At no-load	
		Speed (min.)	Air consumption (max.)	Speed (max.)	Air consumption (max.)
Inches	Ft.-lbs.	R.p.m.	Cu. ft./min./hp.	R.p.m.	Cu. ft./min.
7/8	20	180	60	450	45
1-1/4	40	135	55	300	65
3	100	90	45	150	65

3.20 Accessories or extra equipment. When accessories or extra equipment are required, they shall be as specified (see 6.2).

3.21 Instruction book. One copy of an instruction book consisting of the manufacturer's standard commercial instructions and parts list, bound together, shall be furnished with each drill and borer.

3.22 Workmanship. Drills and borers shall be of the best quality, free from imperfections which will adversely affect their general appearance, function, or serviceability.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own facilities or any commercial laboratory acceptable to the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

4.1.1 Inspection of materials and components. In accordance with 4.1, the supplier is responsible for insuring that materials and components used were manufactured, tested, and inspected in accordance with the requirements of referenced subsidiary specifications and standards to the extent specified herein, or, if none, in accordance with this specification.

4.2 Qualification testing. Qualification testing shall be conducted at a laboratory satisfactory to the Bureau of Ships. The tests shall consist of the visual, dimensional, and weight examination of 4.4.1 and 4.4.2, the performance tests of 4.7, followed by the qualification tests of 4.8. After satisfactory completion of the tests of 4.8, the drill or borer shall be disassembled and the various parts examined. Any part broken, cracked, or deformed shall be cause for rejection. The drill or borer shall then be reassembled and again subjected to the tests of 4.7. Tests shall be conducted on nonreversible and reversible drills of each type, style, and size and on each size of borer for which qualification approval is desired. Application for qualification tests shall be made in accordance with "Provisions Governing Qualification" (see 6.3).

4.3 Quality conformance inspection.

4.3.1 Inspection lot. Drills and borers of the same type, style, and size shall be considered a lot for the purpose of quality conformance inspection.

4.3.2 Sampling procedures. Sampling procedures shall be in accordance with MIL–STD–105. Data for sampling shall be as stated in table VI.

4.4 Examination.

4.4.1 Visual examination. Each sample unit shall be examined for any nonconformance in design, material, finish, coating, construction, workmanship, and marking. Defects are listed in table VII.

00-D-691d
INTERIM AMENDMENT-6 (GSA-FSS)
December 28, 1970
SUPERSEDING
Interim Amendment-5 (NAVY-Ships)
May 15, 1970

INTERIM AMENDMENT

TO

FEDERAL SPECIFICATION

DRILL, PNEUMATIC PORTABLE; AND BORER, WOOD, PNEUMATIC

This Interim Amendment was developed by the Standardization Division, Federal Supply Service, General Services Administration, Washington, D. C. 20406, based upon currently available technical information. It is recommended that Federal agencies use it in procurement and forward recommendations for changes to the preparing activity at the address shown above.

The General Services Administration has authorized the use of this Interim Amendment as a valid exception to Federal Specification 00-D-691d.

PAGE 1

Paragraph 2.1, under "Federal Specification": Add "PPP-P-40 Packaging and Packing of Hand Tools."

PAGE 2

Paragraph 2.1: Delete "Military Specification" and "MIL-P-12829".

Paragraph 2.2 Other publications. Add the following:

"CAGI-PNEUROP Test Code for the Measurement of Sound from Pneumatic Equipment.

(Copies may be obtained from Compressed Air and Gas Institute, 122 East 42nd Street, New York, New York 10017)."

Paragraph 3.2: Delete and substitute:

"3.2 Qualification. Drills and borers furnished under this specification shall be products which are qualified for listing on the applicable qualified products list at the time set for opening of bids (see 4.2 and 6.3)."

Paragraph 3.3: Delete and substitute:

"3.3 Materials. The materials used in the construction of items and components shall be sound, of uniform quality and condition and shall conform in composition, heat treatment and suitability to the standard practices of manufacturers producing tools of the types required in this specification. Equipment and parts shall be new and high grade commercial quality."

PAGES 2 and 3

Paragraphs 3.7, 3.7.1 and 3.7.2: Delete and substitute:

"3.7 Lubrication. The drills and borers shall be designed so that oil may be applied to all components that require lubrication. Provisions shall be made for the oil to be manually applied directly into the tool or automatically supplied through the air pressure line."

FSC 5130

PAGE 3

Add the following:

"3.10.1 Sound pressure levels. The sound pressure levels measured at an unobstructed distance of one meter, shall not exceed the following limits on the A weighted scale in any microphone location (see 4.7.1):

90 dbA ----- Type I, styles A, B, and C in sizes 1/2 inch and smaller.
100 dbA ----- Type I, styles A, B, and C in sizes 7/8 inch and larger; type II; and type III."

PAGE 4

Table I: Delete and substitute:

TABLE I. Type I drills, sizes, and capacities

Size	At spindle	Air inlet connection nominal pipe size	Weight (max.)
1/4-high speed	1/4-inch chuck[1/]	1/4	4-1/4
1/4-medium speed	1/4-inch chuck[1/]	1/4	6
1/4-low speed	1/4-inch chuck[1/]	1/4	6
3/8-high speed	3/8-inch chuck[1/]	1/4	8
3/8-medium speed	3/8-inch chuck[1/]	1/4	8
1/2-pistol grip	1/2-inch chuck	1/4 or 3/8	12
1/2	No. 2 ASA Morse taper socket	1/2 or 3/8	15[2/]
7/8	No. 3 ASA Morse taper socket	1/2 or 3/4	30
1-1/4	No. 4 ASA Morse taper socket	1/2 or 3/4	39
2	No. 5 ASA Morse taper socket	3/4 or 1	45
3	No. 5 ASA Morse taper socket	3/4 or 1	85

[1/] For type of spindle on which chuck is mounted, see 3.17.6.1.
[2/] If furnished with chuck, add 2 pounds.

Table II: Delete and substitute:

TABLE II. Type I drills--performance characteristics

Size of drill	Specified torque	At specified torque		At no load	
		Speed (min.)	Air consumption (max.)	Speed (max.)	Air consumption (max.)
Inches	Ft. Lbs.	R.P.M.	Cu. Ft./min./h.p.	R.P.M.	Cu. Ft./min.
1/4-high speed	0.75	1,400	70	3,200	26
1/4-medium speed	2.0	950	65	2,200	38
1/4-low speed	2.6	500	55	1,000	30
3/8-high speed	2.5	700	75	1,600	35
3/8-medium speed	6.0	450	65	900	40
1/2	10	500	40	1,000	35
1/2 (pistol grip)	8	450	45	1,200	40
7/8	30	300	35	500	35
1-1/4	50	290	37	450	60
2	80	150	37	300	60
3	200	100	38	150	80

PAGE 5

Paragraph 3.17.3: Delete and substitute:

"3.17.3 Style C, straight drive. Style C drills shall be similar to figure 3. Unless otherwise specified (see 6.2), the 1/2-inch and larger drills shall be similar to figure 4. When specified (see 6.2), 1/2-inch drills shall be similar to figure 3 with pistol grip live handle forward of position illustrated. (This option negates spindle requirement of table I and the throttle requirements specified in 3.17.5 when exercised)."

PAGE 6

Paragraph 3.17.6.2: Delete and substitute:

"3.17.6.2 Sizes 1/2 inch and larger. Unless otherwise specified (see 6.2), the drills shall be furnished with spindles having standard ASA Morse taper sockets as shown in table I. When specified (see 6.2), 1/2-inch size drill spindles shall directly accept a 1/2-inch chuck commercially rated medium duty without the use of an intermediate adapter or shank."

PAGE 10

Table V: Delete and substitute:

TABLE V. Type III, corner drills--performance characteristics

Size	Specified torque	At specified torque		At no load	
		Speed (min.)	Air Consumption (max.)	Speed (max.)	Air Consumption (max.)
Inches	Ft. lbs.	R.P.M.	Cu. Ft./min./h.p.	R.P.M.	Cu. Ft./min.
7/8	100	180	45	450	55
1-1/4	160	100	45	300	65
3	250	70	45	150	65

Paragraph 4.1: Delete and substitute:

"4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements."

Paragraph 4.2, line 2: Delete "Bureau of Ships" and substitute "Naval Ship Engineering Center".

Paragraph 4.2, last line: Delete "Provisions Governing Qualification" and substitute "Provisions Governing Qualification SD-6".

PAGE 12

Add the following:

"4.7.1 Sound pressure level test. The sound pressure level test shall be conducted in accordance with the applicable provisions of the CAGI-PNEUROP Test Code except as modified herein. The acceptable limits shall be as specified in 3.10.1.

4.7.1.1 Acoustical calibration. The entire instrumentation system shall be calibrated before each test series allowing a minimum instrument warm-up period of 5 minutes if transistorized and 1/2 hour if vacuum tube. Recalibration shall be performed if any instrument adjustment is necessary during progress of the test. All instrumentation (except microphone) and test personnel shall be as remotely located as practicable so that the measured data will be unaffected by a nonstationary observer.

4.7.1.2 Background sound level. The ambient noise level shall be no greater than 10 db less than the measurement taken with the tool running in all tool and microphone orientations. In addition, the sound produced by the energy absorbing device, used in the "on load" test, must be at least 10 dbA below the machine's own sound output."

Paragraphs 5.1 and 6.2 (g) delete "MIL-P-12829" and substitute "PPP-P-40".

Paragraph 6.1: Add the following:

"Maximum sound pressure levels have been set to insure against occupational noise-induced hearing losses. The tools covered by this specification are considered intermittent duty tools, used in short bursts of 2 minutes duration or less. The exposure time for tool sizes up to and including 1/2 inch is four hours. The larger sizes are considered to be less intermittent and have an exposure time of two hours."

Paragraph 6.2: Add the following:

"(i) Specify when 1/2-inch style C drills shall be similar to figure 3 (see 3.17.3), have a spindle for accepting 1/2-inch drill chucks directly, (see 3.17.6.2) and be furnished with a 1/2-inch chuck commercially rated medium duty."

Paragraph 6.3: Delete and substitute:

"6.3 With respect to products requiring qualification, awards will be made only for products which are at the time set for opening of bids, qualified for inclusion in applicable Qualified Products List QPL OO-D-691, whether or not such products have actually been so listed by that date. The attention of the suppliers is called to this requirement, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification in order that they may be eligible to be awarded contracts or orders for the products covered by this specification. The activity responsible for the Qualified Products List is the Naval Ship Engineering Center, Center Building, Prince George's Center, Hyattsville, Maryland 20782 and information pertaining to qualification of products may be obtained from that activity. Application for Qualification Tests shall be made in accordance with "Provisions Governing Qualification SD-6" (see 6.3.1).

6.3.1 Copies of "Provisions Governing Qualification SD-6" may be obtained upon application to Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, Pennsylvania 19120."

Table VI. Sampling data

Category	Sample unit	Inspection level	Acceptable quality level (AQL)	AQL expressed in terms of	Reference
Visual examination	One complete drill or borer	II	1.5	Percent defective	4.4.1
Dimensional and weight examination	"	II	1.5	"	4.4.2
Testing	"	S–4	1.5	Defects per hundred units	4.5
Preparation for delivery	One complete drill or borer prepared for delivery	S–2	4.0	Defects per hundred units	4.6

Table VII. Classification of defects

	Defects
1	Type, style, or size, not specified.
2	Style of handle, not as specified.
3	Drill or borer incomplete, parts missing.
4	Drill or borer, not securely assembled; fasteners, not secured with suitable locking device.
5	Spindle, not as specified.
6	Chuck, not as specified.
7	Marking missing, illegible, or incorrect.
8	Drill or borer, not provided with secondary lubrication fittings or primary lubrication device.
9	Air-inlet connection damaged or not as specified.
10	Air strainer damaged, missing, or not easily removable.
11	Handles, not removable when required.
12	Throttle, not as specified.
13	Material poor quality, defective, or unsuited for purpose intended.
14	Like parts from same manufacturer not interchangeable.
15	Bearings, not as specified or not adequately-protected from dirt and foreign matter.
16	Poor workmanship in fabrication.
17	Tapped holes under minimum depth specified or not reinforced, as applicable.

Table VIII. Classification of preparation for delivery defects

Examine	Defects
Markings (exterior and interior)	Omitted; incorrect; illegible; improper size, location, sequence, or method of application.
Materials	Any component missing or damaged.
Workmanship	Inadequate application of components such as incomplete closure of container flaps, loose strapping, inadequate stapling.
Contents (exterior and interior container)	Distortion of container.
	Number per container is more or less than required. Net weight exceeds requirements.

4.4.2 Dimensional and weight examination. Each sample unit shall be examined for any nonconformance with dimensional and weight requirements.

4.5 Testing. Each sample unit shall be tested in accordance with 4.7.

4.6 Inspection of preparation for delivery. The preservation, packaging, packing, and marking shall be examined for conformance with the requirements of section 5. (See tables VI and VIII.)

4.7 Performance tests. All performance tests shall be based on operation of the tools with compressed air at a gage pressure of 90 pounds p.s.i. measured as close to the tool as practicable. The tools shall be tested for air consumption, speed, torque, and horsepower, as specified in the applicable table. The tests shall also determine compliance with the throttle, rotational, and reversability action, as applicable. The test tools shall be connected to the air supply by means of a 10-foot length of 5/8-inch inside diameter hose.

4.8 Qualification tests.

4.8.1 Types I and III drills. The drills shall be tested by actual drilling, for 150 hours, medium steel using the maximum size high speed twist drill corresponding to the rated size of the drill. The medium steel test material shall have a minimum Brinell hardness of 112, and shall be 1-inch thick when testing the 1/4-, 3/8-, 1/2-, and 7/8-inch size drills; and 1-1/2-inch thick when testing drills that are 1-12 inch size and larger.

4.8.2 Type II, wood borers. The borers shall be tested by actual boring, for 150 hours, dry, well seasoned oak hardwood 1-1/2-inches thick, using the maximum size of wood bit, in inches, corresponding to the rated size of the borer.

5. PREPARATION FOR DELIVERY

5.1 Preservation, packaging, and packing. Preservation, packaging, and packing shall be in accordance with MIL-P-12829. Levels of preservation, packaging, and packing shall be as specified (see 6.2).

5.2 Marking.

5.2.1 Military agencies. In addition to any special marking required by the contract or order (see 6.2), interior packages and shipping containers shall be marked in accordance with MIL-STD-129.

5.2.2 Civil agencies. In addition to any special marking required by the contract or order (see 6.2), interior packages and shipping containers shall be marked in accordance with Fed.-Std. No. 123.

6. NOTES

6.1 Intended use. Pneumatic drills covered by this specification are intended for drilling holes in metal, using twist drills. Wood borers are for use in drilling holes in wood, using wood bits.

6.2 Ordering data. Purchasers should elect the preferred options offered herein and include the following data in procurement documents:

(a) Title, number, and date of this specification.

(b) Type, style, and size of drill or borer required (see 1.2.1 and tables I, III, and IV).

(c) If reversible type I drill is required (see 3.17).

(d) Style of handle grip required for type I drills (see 3.17.4).

(e) If feed screw is not required on type I drills (see 3.17.8).

(f) Accessories or extra equipment, when required (see 3.20).

(g) Applicable levels of preservation, packaging, and packing required (see 5.1, and MIL-P-12829).

(h) Special marking, if required (see 5.2).

6.3 With respect to products requiring qualification, awards will be made only for such products as have, prior to the time set for opening of bids, been tested and approved for inclusion on Qualified Products List OO–D–691, whether or not such products have actually been so listed by that date. The attention of the suppliers is called to this requirement, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification, in order that they may be eligible to be awarded contracts or orders for the products covered by this specification. The activity responsible for the qualified products list is the Naval Ship Engineering Center, Department of the Navy, Washington, D. C., 20360, and information pertaining to qualification of products may be obtained from that activity. Application for qualification tests shall be made in accordance with "Provisions Governing Qualification." (Copies may be obtained upon application to Commanding Officer, Naval Supply Depot, 5801 Tabor Ave., Philadelphia, Pa. 19120.)

MILITARY CUSTODIANS:

Army—GL
Navy—SH
Air Force—69

Review activities:

Army—GL, MO
Navy—SH
Air Force—69

User activities:

Army—WC
Navy—MC, YD

Preparing activity:

GSA–FSS

CIVILIAN AGENCIES:

HEW
COM–NBS
VA

U. S. Government Printing Office: 1967.

Orders for this publication are to be placed with General Services Administration, acting as an agent for the Superintendent of Documents. See section 2 of the specification to obtain extra copies and other documents referenced herein. Price 10 cents each.

☆ U. S. GOVERNMENT PRINTING OFFICE : 1967 O - 252-512 (207)

00-W-891e
August 25, 1967
SUPERSEDING
Int. Fed. Spec. 00-W-00891d(GSA-FSS)
May 13, 1965 and
Fed. Spec. 00-W-891c
December 19, 1963

FEDERAL SPECIFICATION

WRENCH, IMPACT, PNEUMATIC, PORTABLE

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers portable pneumatic impact wrenches, for tightening and loosening bolts and nuts, that are most generally used by the Federal Government.

1.2 Classification.

1.2.1 Sizes. The wrenches shall be furnished with the following square male drive sizes, as specified (see 3.1l and 6.1):

Size 3/8 (1/2-inch capacity).
Size 1/2 (3/8-inch capacity).
Size 5/8 (5/8-inch capacity).
Size 3/4 (3/4-inch capacity).
Size 1 (1-1/4-inch capacity).
Size 1-1/2 (1-3/4-inch capacity).

2. APPLICABLE DOCUMENTS

2.1 Specification and standards. The following specifications and standards, of issues in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

Federal Standard:
Fed. Std. No. 123 - Marking for Domestic Shipment (Civilian Agencies).

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications and Standards and at the prices indicated in the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., 20402.

(Single copies of this specification and other product specifications required by activities outside the Federal Government for bidding purposes are available without charge at the General Services Administration Regional Offices in Boston, New York, Washington, D. C., Atlanta, Chicago Kansas City, Mo., Ft. Worth, Denver, San Francisco, Los Angeles, and Seattle, Wash.

(Federal Government activities may obtain copies of Federal Specifications, Standards, and Handbooks and the Index of Federal Specifications and Standards from established distribution points in their agencies.)

Military Specification:
MIL-P-12829 - Packaging of Pneumatic Hand Tools with Attachments and Accessories.

Military Standard:
MIL-STD-129 - Marking for Shipment and Storage.

(Copies of Military Specifications and Standards required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

National Bureau of Standards (NBS) Handbook:
H28 - Screw-Thread Standards for Federal Services.

(Application for copies should be addressed to the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., 20402.)

United States of America Standards Institute (USASI) Publication:
B5.38 - 1958 - Driving and Spindle Ends for Portable Air and Electric Tools.

(Copies may be obtained from the United States of America Standards Institute, 10 East 40th Street, New York, N.Y., 10016.)

(Technical society and technical association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

3. REQUIREMENTS

3.1 Illustrations. The illustrations shown herein are descriptive, and not restrictive, and are not intended to preclude the purchase of wrenches otherwise conforming to this specification.

3.2 Qualification. Portable pneumatic impact wrenches furnished under this specification shall be a product which has been tested, and passed the qualification tests specified herein, and has been listed on, or approved for listing on the applicable qualified products list.

3.3 Material. Material used in the construction of the wrenches shall be of a good commercial quality suitable for the intended purpose. All materials used shall be free from defects and imperfections that may adversely affect the serviceability of the finished product.

3.4 Screw threads. All threaded parts, including screws, bolts, and nuts, shall conform to the applicable requirements of NBS H28.

3.5 Identification of product. Wrenches shall be marked in a plain and permanent manner, such that the source of manufacture can be easily determined.

3.6 Lubrication.

3.6.1 Primary lubrication. Wrenches shall be provided with an oil reservoir. The oil reservoir shall be of sufficient capacity so that one filling will supply lubrication to moving parts in the path of the air stream for at least 8 hours of continuous operation. The oil shall be fed from the reservoir by an automatic device that functions through an action dependent upon the operation of the wrench. The oil flow shall be regulated so that lubrication will be sufficient without excessive quantities of lubricant being discharged with the exhaust air.

3.6.2 Secondary lubrication. Conventional type lubricating fittings or openings or other suitable means shall be provided for introduction of sufficient lubricant for bearings, gears, and other moving parts not lubricated from the oil reservoir. The fittings and openings shall be such that lubrication is required only once in not less than 48 hours of actual operation. Where acceptable prelubricated sealed bearings are used, no external means of lubrication shall be required for these parts.

3.7 Air inlet connection. The air inlet connection shall consist of a well-secured ferrous fitting threaded with internal American Standard taper pipe threads (NPT) or internal Dryseal American Standard taper pipe threads (NPTF) in sizes specified in table I. The air inlet shall be fitted with an air strainer or screen (20 mesh or finer) which shall be effective in retaining solid particles in the compressed air supply. The strainer or screen shall be of such design that it can be easily removed for cleaning.

OO-W-891e
INTERIM AMENDMENT-5(NAVY-Ships)
July 30, 1971
SUPERSEDING 1/
INTERIM AMENDMENT-4(NAVY-Ships)
October 23, 1970

INTERIM AMENDMENT

TO

FEDERAL SPECIFICATION

WRENCH, IMPACT, PNEUMATIC, PORTABLE

This interim amendment was developed by the Department of the Navy, Naval Ship Engineering Center, Center Building, Prince George's Center, Hyattsville, Maryland 20782, based upon currently available technical information. It is recommended that Federal agencies use it in procurement and forward recommendations for changes to the preparing activity at the address shown above.

The General Services Administration has authorized the use of this interim amendment as a valid exception to Federal Specification OO-W-891e.

Page 1

1.2.1: Delete and substitute:

"1.2.1 Sizes. The wrenches shall be furnished with the following square male drive sizes, as specified (see 3.11 and 6.1):

Size 3/8 (1/4-inch capacity), straight drive.
Size 3/8 (1/4-inch capacity), angle drive.
Size 1/2 (3/8-inch capacity), straight drive.
Size 1/2 (3/8-inch capacity), angle drive.
Size 5/8 (5/8-inch capacity).
Size 3/4 (3/4-inch capacity).
Size 1 (1-1/4-inch capacity).
Size 1-1/2 (1-3/4-inch capacity)."

2.1: Add:

"Federal Specification:
PPP-P-40 - Packaging and Packing of Hand Tools."

2.1: Delete:

"Federal Standard:
Federal Standard No. 123 - Marking for Domestic Shipment (Civilian Agencies).

Military Specification:
MIL-P-12829 - Packaging of Pneumatic Hand Tools with Attachments and Accessories.

Military Standard:
MIL-STD-129 - Marking for Shipment and Storage."

1/ CHANGES FROM PREVIOUS ISSUE. THE OUTSIDE MARGINS OF THIS DOCUMENT HAVE BEEN MARKED "#" TO INDICATE WHERE CHANGES (DELETIONS, ADDITIONS, ETC.) FROM THE PREVIOUS ISSUE HAVE BEEN MADE. THIS HAS BEEN DONE AS A CONVENIENCE ONLY AND THE GOVERNMENT ASSUMES NO LIABILITY WHATSOEVER FOR ANY INACCURACIES IN THESE NOTATIONS. BIDDERS AND CONTRACTORS ARE CAUTIONED TO EVALUATE THE REQUIREMENTS OF THIS DOCUMENT BASED ON THE ENTIRE CONTENT AS WRITTEN IRRESPECTIVE OF THE MARGINAL NOTATIONS AND RELATIONSHIP TO THE LAST PREVIOUS ISSUE.

2.1: Delete source paragraph for Military Specifications and Military Standards.

2.2: Delete in its entirety all reference to "American Standards Association (ASA) Publications" and substitute the following:

"AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
ANSI B5.38-1958 - Driving and Spindle Ends For Portable Air and Electric Tools.
ANSI S5.1-1971 - Test Code for the Measurement of Sound from Pneumatic Equipment.

(Application for copies should be addressed to the American National Standards Institute, Inc., 1430 Broadway, New York, New York 10018.)"

3.2 Delete and substitute:

"3.2 Qualification. Portable pneumatic wrenches furnished under this specification shall be products which are qualified for listing on the applicable qualified products list at the time set for opening of bids (see 4.2 and 6.3)."

3.3: Delete and substitute:

"3.3 Materials. The materials used in the construction of items and components shall be sound, of uniform quality and condition and shall conform in composition, heat treatment and suitability to the standard practices of manufacturers producing tools of the types required in this specification. Equipment and parts shall be new and high grade commercial quality."

3.6, 3.6.1, and 3.6.2: Delete and substitute:

"3.6 Lubrication.

"3.6.1 Primary lubrication. Wrenches shall be provided with an oil reservoir, either built-in or of the airline lubricator type. Capacity of the reservoir shall assure metered lubrication of all moving parts in the air stream, from one filling, for a minimum operating period of 8 hours.

"3.6.2 Secondary lubrication. Wrenches requiring periodic lubrication of parts other than those in the air stream shall be provided with external means of applying the required lubricant without disassembling the tool."

After 3.10, add the following paragraph as 3.10.1:

"3.10.1 Sound pressure level. The sound pressure level shall not exceed the following decibel limits on the A weighted scale in any prescribed microphone location (see 4.8).

95 dbA	Sizes 1/2 inch and smaller
103 dbA	Sizes 5/8 inch and larger "

Table I: Delete and substitute:

" Table I - Weight, dimensional and performance requirements.

Spindle size	Weight max.	Length max.	Spindle offset max.	Air inlet 1/ (NPT-NPTF)	Air consumption 2/ at load max.	Time to twist specimen 180° max.
Inches	Pounds	Inches	Inches	Inch	CFM	Seconds
3/8	5	9-1/4	1-1/4	1/4	15	5
1/2	7	10-5/8	1-3/8	1/4	30	5
5/8	12	12	1-5/8	1/4	35	5
3/4	19	16	2	3/8	50	5
1	35	21-1/8	2-1/2	3/8	60	8
1-1/2	73	25-5/8	3	1/2	85	10

1/ Other air inlet sizes will be permitted provided adapters are furnished in the sizes which will permit connections of air hoses in accordance with this table.
2/ Air consumption at load measured during test specimen twist test.

Page 6

3.15: Delete and substitute:

"3.15 Angle drive. When specified (see 6.1), the 3/8 and 1/2 inch size wrenches shall be of the angle drive type with the axis of the drive shaft 90° from the axis of the wrench housing. Angle drive wrenches may exceed the length requirements of table I by no more than 4 inches."

3.19, line 1: Delete ("torque)" throughout.

4.1: Delete and substitute:

"4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements."

4.2, last line: Delete "Provisions Governing Qualification" and substitute "Provisions Governing Qualification SD-6".

Page 7

4.6.1, line 3: Delete "SAE grade 1" and substitute "plain carbon (1020 series)".

4.6.1, lines 4 and 5: Delete "maximum hardness of 95" and substitute "hardness of 60-70".

Table IV: Delete and substitute:

TABLE IV. Dimensions of test specimens

Spindle size inches	Nominal[1/] hex, size A, inches	Overall length B, inches	"C" length, inches, ± 0.005	"D" diameter, inch ± 0.0005	"E" diameter inch ± 0.005
3/8	1/2	4	0.500	0.250	0.480
1/2	5/8	4-1/4	.750	.320	.680
5/8	7/8	4-1/2	1.000	.430	.680
3/4	1	4-1/2	1.000	.510	.880
1	1-1/8	4-1/2	1.000	.680	.980
1-1/2	1-3/8	5	1.500	1.000	1.000

[1/] Distance across flats of hexagon bar.

Page 8

Figure 6: In the drawing, delete "Bolt" and substitute "Test specimen".

Page 9

4.6.2, last sentence: Delete "bolt".

Add the following paragraphs:

"4.8 Sound pressure level test. The sound pressure level test shall be conducted in accordance with the applicable provisions of ANSI S5.1, except as modified herein. The test fixture shall be equivalent to figure 18 of ANSI S5.1 and the acceptable limits shall be as specified in 3.10.1.

Page 9 (cont'd.)

4.8.1 Acoustical calibration. The entire instrumentation system shall be calibrated before each test series, allowing a minimum instrument warmup period of 5 minutes if transistorized and 1/2 hour if vacuum tube. Recalibration shall be performed if any instrument adjustment is necessary during progress of the test.

4.8.2 Background sound level. The ambient noise level shall be at least 10 dbA less than the measurement taken with the tool running in all tool and microphone orientations. In addition, the sound produced by the energy absorbing device used in the "on load" test must be at least 10 dbA below the machine's own sound output."

5.1: Delete and substitute:

"5.1 Preservation, packaging, packing, and marking. Impact wrenches shall be preserved, packaged, packed, and marked in accordance with PPP-P-40. The level of preservation, packacing, and packing shall be level A, B, or C as specified (see 6.1)."

5.2, 5.2.1 and 5.2.2: Delete in their entirety.

6.1(g): Delete.

Add the following new paragraph:

"6.2.2 Maximum sound pressure levels have been set to insure against occupational noise-induced hearing losses. The tools covered by this specification are considered intermittent duty tools, used in short bursts of two minutes duration or less, 0.5 "on-fraction". The exposure time for tool sizes up to and including 1/2 inch is four hours. The larger sizes are considered to be less intermittent, and have an exposure time of two hours."

Page 10

6.3: Delete and substitute:

"6.3 With respect to products requiring qualification, awards will be made only for products which are at the time set for opening of bids, qualified for inclusion in applicable Qualified Products List QPL OO-W-891, whether or not such products have actually been so listed by that date. The attention of the suppliers is called to this requirement, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification in order that they may be eligible to be awarded contracts or orders for the products covered by this specification. The activity responsible for the Qualified Products List is the Naval Ship Engineering Center, Prince George's Center, Center Building, Hyattsville, Maryland 20782, and information pertaining to qualification of products may be obtained from that activity. Application for Qualification tests shall be made in accordance with "Provisions Governing Qualification SD-6" (see 6.3.1).

"6.3.1 Copies of "Provisions Governing Qualification SD-6" may be obtained upon application to Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, Pennsylvania 19120."

Under "Preparing activity": Delete "GSA-FSS" and substitute "NAVY - SH".

Preparing activity:
Navy - SH
(Project 5130-N209)

OO-W-891e
AMENDMENT -1
October 16, 1967

FEDERAL SPECIFICATION

WRENCH, IMPACT, PNEUMATIC, PORTABLE

This amendment, which forms part of Federal Specification OO-W-891e, dated August 25, 1967, was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

Page 3, Table I, column 7: For Spindle size 1, delete "5" seconds and substitute "8" seconds.

Page 7, Table IV: Delete and substitute:

"TABLE IV. Dimensions of test specimens

Spindle size inches	Nominal 1/ hex, size A, inches	Overall length B, inches	"C" length, inches, ±0.005	"D" diameter, inch, ± 0.0005	"E" diameter, inch, ± 0.005
3/8	1/2	4	0.500	0.250	0.480
1/2	5/8	4-1/4	.750	.320	.680
5/8	7/8	4-1/2	1.000	.430	.680
3/4	1	4-1/2	1.000	.510	.880
1	1-1/8	4-1/2	1.000	.680	.980
1-1/2	1-3/8	5	1.500	1.000	1.000

1/ Distance across flats of hexagon bar."

Page 10, "Preparing activity:": Delete "GSA-FSS" and substitute "Navy - SH".

Custodians:
Army - GL
Navy - SH
Air Force - 84

Review activities:
Army - GL
Navy - SH
Air Force - 84

User activities:
Navy - YD, MC

Civilian Agency Interest:
GSA -FSS

Preparing activity:
Navy - SH
(Project 5130-0149)

FSC 5130

3.8 Bearings. All rotating parts of the wrenches shall be provided with commercially available bearings. The rotor shaft shall be provided with ball bearings. Needle and roller bearings, which are primarily designed for radial loads, shall not be used in a thrust position. If open type bearings are used, they shall be suitably housed and adequately sealed to prevent leakage of lubricant and entrance of dirt and dust. The drive end of the spindle may be supported by a suitable inserted sliding contact type bearing (sleeve bearing).

3.9 General construction. Wrenches shall be of rugged construction so as to withstand, without failure, treatment likely to be encountered under general service conditions. Wrenches shall be self-contained, readily accessible for adjustment or replacement of parts. Parts which require lubrication shall be properly enclosed so as to prevent entrance of foreign particles and leakage of lubricant. Working parts exposed to wear shall be of sufficient hardness to withstand the service required. Parts shall be properly finished by machining or grinding to dimensions within limits established by good commercial practice. Similar parts shall be interchangeable and of good fit when assembled with relative parts of the same size, type, and make. Wrenches shall be reliable and effective when operated on compressed air lines at gage pressures between 80 and 100 pounds per square inch (p.s.i.).

3.10 Housing. Housing shall be strong enough to prevent indentation under service conditions. When threaded fasteners are utilized to assemble adjacent housing components, through bolting shall be used in preference to tapped holes. Cap screws, if used, shall engage threads in ferrous housings or ferrous inserts in nonferrous housings by not less than a length equal to the pitch diameter of the fastener thread. Where ferrous inserts are not used in nonferrous housings, cap screws shall engage threads by not less than length equal to 1-1/2 times the pitch diameter of the fastener thread. All threaded fasteners shall be secured with suitable locking devices.

3.11 Spindle. The drive end of the spindle shall be wear-resistant. The drive end, when fitted with a socket, shall not show excessive run-out which may adversely affect operation of the wrench. The drive end of the spindle shall conform to USASI B5.38 for the nominal square male drive size, as specified for the applicable size wrench in table I.

3.12 Operation. The wrenches shall be reversible. The rotational direction of the wrench shall be controlled by a conveniently located mechanical device which is independent of the throttle. The rotational control shall be plainly and permanently marked to indicate direction of rotation.

3.13 Impact unit. Wrenches shall contain an impact unit which is actuated by the motor. The impact unit shall be designed to convert torque from the motor into rotary impacts and to transmit these impacts to the spindle.

3.14 Sizes. The wrenches shall conform to the requirements of table I for the size specified (see 6.1), and shall be similar to figures 1, 2, 3, 4, or 5, as applicable. The performance criteria of table I applies to the wrenches in the forward(counterclockwise rotation of the spindle looking at the front of the wrench) direction only:

TABLE I. Weight, dimensional and performance requirements

Spindle size	Weight max.	Length max.	Spindle offset max.	Air inlet (NPT-NPTF)	Air consumption[1/] at load max.	Time to twist bolt specimen 180° max.
Inches	Pounds	Inches	Inches	Inch	CFM	Seconds
3/8	5	9-1/4	1-1/4	1/4	15	5
1/2	7	10-5/8	1-3/8	1/4	30	5
5/8	12	12	1-5/8	1/4	35	5
3/4	19	16	2	3/8	50	5
1	35	21-1/8	2-1/2	3/8	60	5
1-1/2	73	25-5/8	3	1/2	85	10

1/ Air consumption at load measured during test specimen twist test.

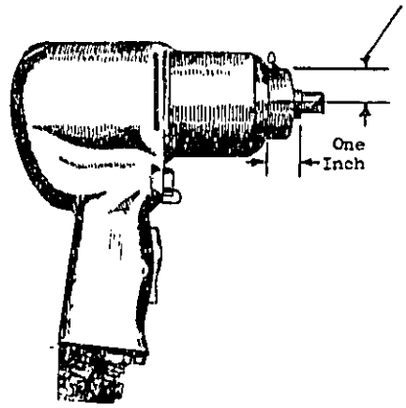


FIGURE 1. Pistol style handle.

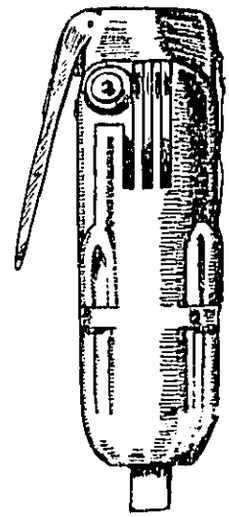


FIGURE 2. Body grip style handle.

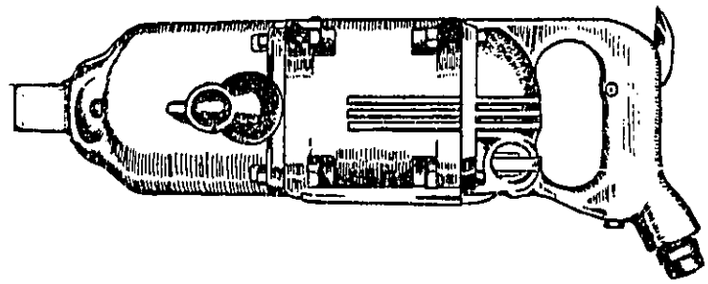


FIGURE 3. Closed style handle.

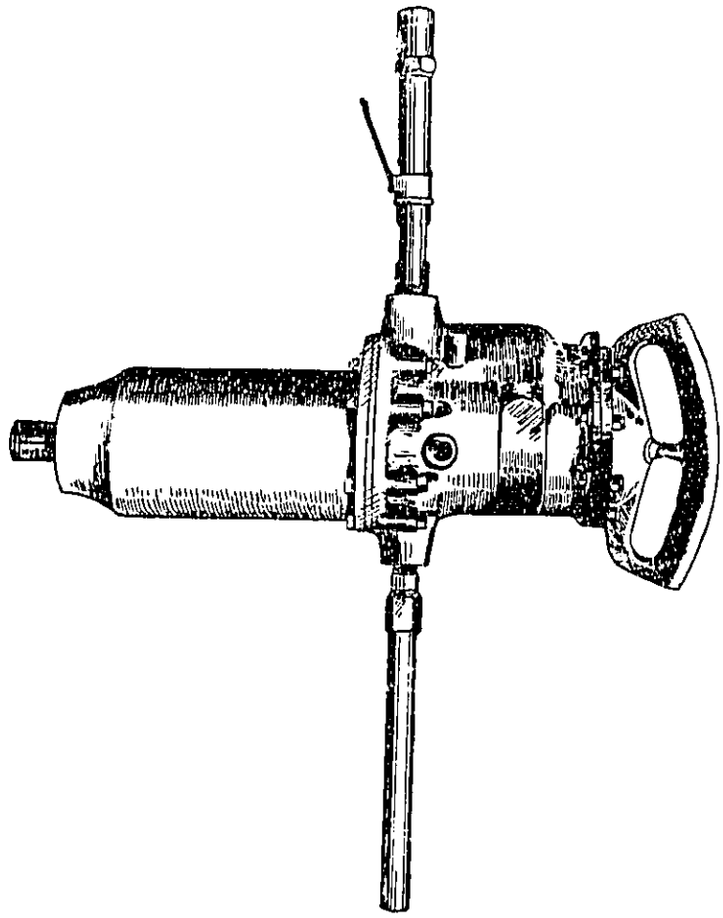


FIGURE 4. Fixed handle or grip.

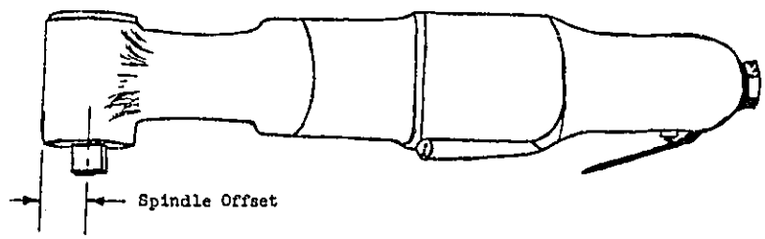


FIGURE 5. Body grip style handle, angle drive.

3.15 Angle drive. When specified (see 6.1), the 1/4 and 3/8 inch wrenches shall be of the angle drive type with the axis of the drive shaft 90° from the axis of the wrench housing.

3.16 Handles.

3.16.1 Sizes 3/8 and 1/2 inch. Each wrench of the 3/8 and 1/2 inch size shall be equipped with a pistol-style handle (fig. 1) or a body grip-style handle figure 2 or 5 (when applicable), as specified (see 6.1). The pistol-style handle tool shall be fitted with the air-inlet connection at the base of the handle. The body-grip style handle tool shall be fitted with the air-inlet connection at the end of the housing opposite the spindle.

3.16.2 Sizes 5/8 to 1 inch. Each wrench of the 5/8 to 1 inch size shall be equipped with a closed-style handle (fig. 3) located at the end of the housing opposite the spindle or a pistol-style handle (fig. 1), as specified (see 6.1). Sizes 5/8 to 1 inch wrenches shall be fitted with the air-inlet connection at the base of the handle. Wrenches furnished with closed-style handles shall be equipped with a removable "dead" handle located in or on the housing, perpendicular to the spindle axis and to the plane of the closed-style handle.

3.16.3 Size 1-1/2 inch. Each wrench of the 1-1/2 inch size shall be equipped with a fixed handle or grip (fig. 4) located at the end of the housing opposite the spindle, a removable "dead" handle located in the side of the housing perpendicular to the spindle axis, and a "live" handle in the side of the housing in alignment with the "dead" handle. The "live" handle shall be fitted with the air-inlet connection.

3.17 Throttle. Wrenches shall be provided with a nonleakable manual throttle for controlling the supply of compressed air. Throttles shall be of such design that the speed can be regulated during the operation. Wrenches of the 1/4 to 1 inch sizes shall be equipped with a trigger, button, or lever style throttle on the handle. Wrenches of the 1-1/2 inch size shall be equipped with a sleeve or lever style throttle on the "live" handle.

3.18 Accessories or extra equipment. When specified (see 6.1), accessories or extra equipment shall be furnished.

3.19 Air volume (torque) regulator. The wrenches shall be furnished with an air volume (torque) regulator. The regulator may either be built into the wrench or furnished separately. It shall have varying degrees of restriction for regulating the volume of air flow. When in the wide open position, the wrench air consumption shall not exceed that shown in table I.

3.20 Instruction book. One copy of an instruction book consisting of the manufacturer's standard commercial instructions and parts list, bound together, shall be furnished with each wrench.

3.21 Workmanship. The wrenches and accessories shall be free from all imperfections which will adversely affect the general appearance, function, or serviceability.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own facilities or any commercial laboratory acceptable to the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

4.1.1 Inspection of materials and components. In accordance with 4.1, the supplier is responsible for insuring that materials and components used were manufactured, tested, and inspected in accordance with the requirements of referenced subsidiary specifications and standards to the extent specified herein, or if none, in accordance with this specification.

4.2 Qualification tests. Qualification tests shall be conducted at a laboratory satisfactory to the Naval Ship Engineering Center and shall consist of the tests specified in 4.6 and 4.7, and the examination specified in 4.4. Tests shall be conducted on each size impact wrench for which qualification is desired. Application for qualification tests shall be made in accordance with "Provisions Governing Qualification" (see 6.3).

4.3 Quality conformance inspection.

4.3.1 Inspection lot. Wrenches of the same size shall be considered a lot for the purpose of quality conformance inspection. Inspection shall include the examination of 4.4, the test of 4.6, and the inspection for delivery of 4.5.

4.3.2 Sampling procedures. Sampling procedures shall be in accordance with MIL-STD-105. Data for sampling shall be as stated in table II.

TABLE II. Sampling data

Category	Sample unit	Inspection level	Acceptable quality level	AQL expressed in terms of	Reference
Visual examination	One wrench	II	1.5	Percent defective	4.4.1
Dimensional and weight examination	One wrench	II	1.5	Percent defective	4.4.2
Testing for quality conformance	One wrench	II	1.5	Percent defective	4.6
Preparation for delivery	One wrench packaged for delivery	II	4.0	Percent defective	4.5

4.4 Examination.

4.4.1 Visual examination. Each sample unit shall be examined for any nonconformance in design, material, finish, construction, workmanship, and marking. Defects are listed in table III.

TABLE III. Classification of defects

No.	Defects
1	Material nonconforming.
2	Wrench not easily adjustable or parts not easily replaceable.
3	Lubricated parts enclosure nonconforming.
4	Similar parts not dimensionally and functionally interchangeable.
5	Air-inlet connection not as specified, damaged, or missing.
6	Air strainer mission or damaged, not easily removable.
7	Marking, nonconforming, illegible, incorrect, or missing.
8	Handles not as specified or damaged, not removable, when required.
9	Throttle nonconforming, damaged, inoperable, or missing.
10	Spindle not as specified.
11	Bearings not as specified, broken, cracked, or pitted.
12	Lubrication of wrench not as specified; evidence of oil leakage.

4.4.2 Dimensional and weight examination. Each sample unit shall be examined for any nonconformance with dimensional and weight requirements.

4.5 Inspection of preparation for delivery. The preservation, packaging, packing, and marking shall be examined for conformance with the requirements of section 5.

4.6 Test specimen twist test. Sample wrenches shall be subjected to a test to determine compliance with the twist time requirements specified in table I, for the applicable size wrench being tested.

4.6.1 Apparatus. The test set-up shall consist of a fixture for holding the test specimen, similar to that shown in figure 6. The specimen shall be machined from annealed, unfinished hexagon bar stock, conforming to SAE grade 1 commercial steel, having a minimum tensile strength of 55,000 p.s.i., containing not more than 0.05 percent phosphorus and 0.06 percent sulphur, with a maximum hardness of 95 on the Rockwell B scale. The specimen shall be of the shape shown in figure 7 and the dimensions specified in table IV for the size wrench being tested.

TABLE IV. Dimensions of test specimens

Size of wrench, inches	Nominal 1/ hex, size A, inches	Overall length B, inches	"C" length, inches, ±0.005	"D" diameter, inch, ± 0.0005	"E" diameter, inch, ± 0.005
1/4	1/2	4	0.500	0.250	0.480
3/8	5/8	4-1/4	.750	.320	.680
5/8	7/8	4-1/2	1.000	.430	.680
3/4	1	4-1/2	1.000	.510	.880
1-1/4	1-1/8	4-1/2	1.000	.680	.980
1-3/4	1-3/8	5	1.500	1.000	1.000

1/ Distance across flats of hexagon bar.

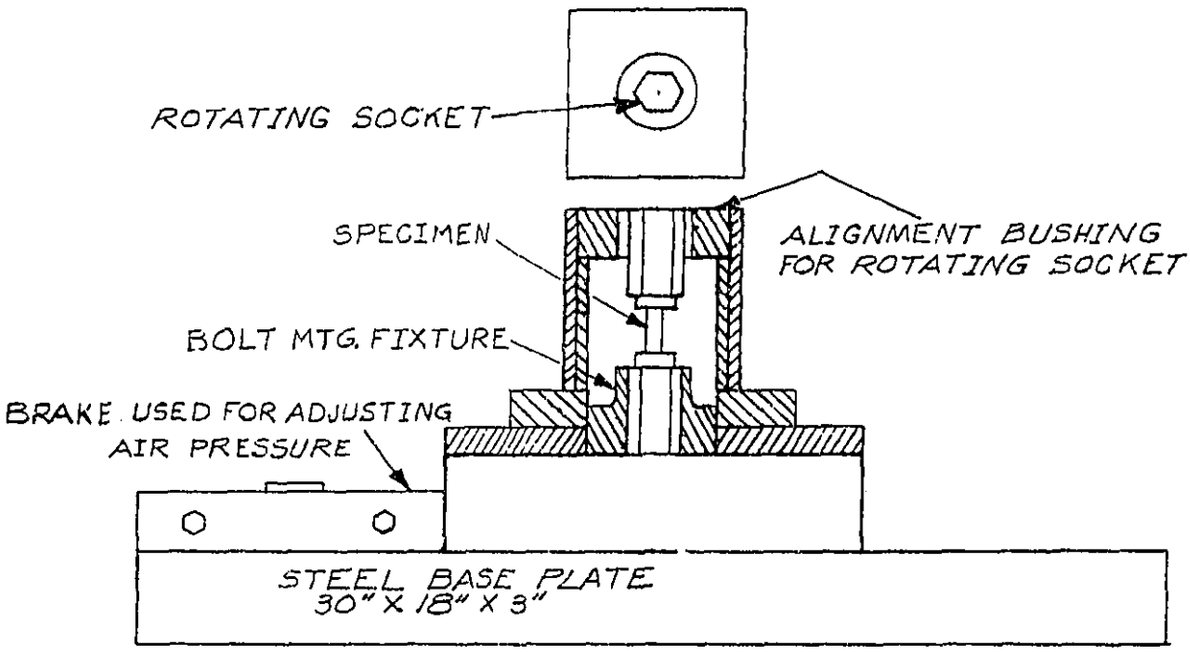


FIGURE 6. Cross sectional drawing of "Time to Twist" set-up for pneumatic wrenches.

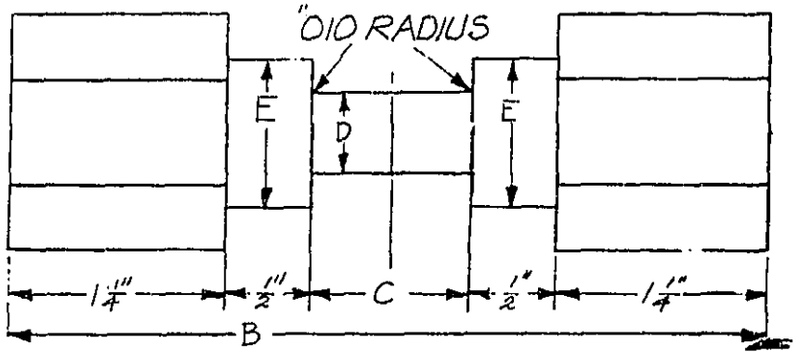


FIGURE 7. Hexagon bar twist test specimen.

4.6.2 Procedure. A test specimen of the applicable size shall be mounted in the test fixture. The air supply to the wrench shall be adjusted by a means of a pressure regulator to a constant air pressure of 90 p.s.i. while the tang is rotating at approximately 15 revolutions per minute. The wrench shall then be mounted on the test specimen, using a socket of the same hexagon size as the hexagon size of the test specimen. The wrench shall be allowed to impact until the specimen twists 90°. Using this initial 90° twist as a datum point, the wrench shall again be allowed to impact for the time specified for the applicable size wrench being tested (see table I), and the test specimen shall have twisted an additional 180°. The time required to twist the specimen and the air consumption, while impacting, shall be recorded. Three runs shall be made with each size wrench being tested and the average values obtained for air consumption and time to twist the bolt specimen. Average values exceeding those specified in table I shall be cause for rejection. If a bolt specimen breaks prior to being twisted 180°, it shall be discarded and a new specimen substituted.

4.7 Service test (qualification testing only). Each size wrench submitted for qualification testing (see 4.2) shall complete 150 hours of actual work under practical service conditions. Each shall first be inspected in accordance with 4.4 and shall be tested in accordance with 4.6. The wrench shall then be put into field use to determine the ease of operation, general serviceability, suitability, and durability of the tool. Failure during the service test of any components of the tool, exclusive of attachments, shall be cause for rejection. After the service test has been completed, the wrench shall be completely disassembled and all parts examined. Any part broken, cracked, or deformed, or not in accordance with the requirements of this specification, shall be cause for rejection. Wrenches completing the service test and disassembly examination shall be reassembled and once again subjected to the test of 4.6.

5. PREPARATION FOR DELIVERY

5.1 Preservation, packaging, and packing. Impact wrenches shall be preserved and packaged in accordance with MIL-P-12829A, level A or C, as specified (see 6.1). Packing shall be in accordance with MIL-P-12829A, level A, B, or C, as specified (see 6.1).

5.2 Marking.

5.2.1 Civil agencies. In addition to any special marking required by the contract or order (see 6.1), interior packages and shipping containers shall be marked in accordance with Fed. Std. No. 123.

5.2.2 Military agencies. In addition to any special marking required by the contract or order (see 6.1), interior packages and shipping containers shall be marked in accordance with MIL-STD-129.

6. NOTES

6.1 Ordering data. Purchasers should select the preferred options offered herein and include the following data in procurement documents:

(a) Title, number, and date of this specification.
(b) Size required (see 1.2.1 and 3.14, table I).
(c) Whether wrenches of the 3/8- and 1/2-inch size shall be of the angle drive type (see 3.15).
(d) Handle style required, as applicable (see 3.16).
(e) Accessories or extra equipment, when required (see 3.18).
(f) Applicable preservation, packaging, and packing requirements (see 5.1).
(g) Special marking, if required (see 5.2).

6.2 Definitions.

6.2.1 Spindle offset. The spindle offset, specified in table I, is defined as the distance from the center line of the spindle to the edge of the wrench housing, measured one inch from the base of the spindle on the housing (for example see fig. 1). For the angle drive type, see figure 5.

6.3 With respect to products requiring qualification, awards will be made only for such products as have, prior to the time set for opening of bids, been tested and approved for inclusion on Qualified Products List (QPL) 00-W-891, whether or not such products have actually been so listed by that date. The attention of the suppliers is called to this requirement, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification, in order that they may be eligible to be awarded contracts or orders for the products covered by this specification. The activity responsible for the qualified products list is the Naval Ship Engineering Center, Washington, D. C., 20360, and information pertaining to qualification of products may be obtained from that activity. Application for qualification tests shall be made in accordance with Provisions Governing Qualification. (Copies may be obtained from the Commanding Officer, Naval Supply Depot, 5801 Tabor Ave., Philadelphia, Pa., 19120.)

MILITARY CUSTODIANS:
Army - GL
Navy - Sh
Air Force - 69

Preparing activity:
GSA-FSS

Review activities:
Army - GL
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User activities:
Navy - MC, YD

☆U. S. Government Printing Office: 1967 O - 302-503 (274)

Orders for this publication are to be placed with General Services Administration, acting as an agent for the Superintendent of Documents. See section 2 of this specification to obtain extra copies and other documents referenced herein. Price of this specification 10 cents each.

DEPARTMENT OF THE INTERIOR

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

Dr. Alvin Meyer, Director
Office of Noise Abatement and Control
Environmental Protection Agency
1750 K Street, N.W.
Washington, D.C. 20460

Dear Dr. Meyer:

Attached is the information you requested on Federal noise programs as they relate to the Department of Interior.

You will note that at this time, the Departments' noise activities are extremely limited, with only one program, specifically budgeted for noise abatement and control. One should not overlook the fact, however, that our interests are a good deal broader and that interference by noise in recreation, wildlife protection etc. are to some extent subsumed in other on-going program activities. We are also participating in an FAA sponsored study on the frequency and nature of sonic booms occurring over our western National Parks. The Bureau of Mines is also in the process of formulating a fairly extensive future program relating to the study of noise control in mines. Details of this program are still being reviewed internally.

Please let me know if any further information would be useful to you.

Sincerely yours,

Martin Prochnik

Martin Prochnik
Deputy Science Adviser

Enclosure

Department of Interior Noise Programs

I. ORGANIZATIONAL

CFR Title 41-Chapter 14, CFR Title 50-Chapter 4, CFR Title 36-Chapter 1, CFR Title 30-Chapter 1, CFR Title 43-Chapter II, Act of May 28, 1936 (16 USC 460, Federal Coal Mine Health and Safety Act of 1969 (Subpart F of Part 70, Subchapter 0, Chapter I, Title 30 CFR.)

II. FUNCTIONAL
B. Specific Programs and Research
1. The Department is assisting an FAA funded project which is monitoring the frequency and characteristics of sonic booms over certain of our western National Parks. No funds are assigned directly to this support function. Results of this monitoring assist in achieving park management objectives such as protection of wildlife, geologic and archeologic features and protecting the recreational use of the parks.

2. The Bureau of Mines has instituted a training program for Inspectors who will survey noise conditions in mines. This monitoring is being done to assure compliance with noise standards for underground mines that were set by the Department of Health, Education and Welfare. As of August 13, 1971 approximately 1150 persons have been qualified to conduct noise measuring surveys.

3. The Bureau of Mines is also in the process of initiating a research program related to the noise problem and related hearing loss by miners. This would involve the assessment of presently used machinery and the design and evaluation of modified equipment that would reduce noise output and consequent hearing damage. Specific research items include the design of noise dosimeters, the identification of noise sources in underground mines and the screening of noise frequencies in order to improve communication.

C. PROCEDURES
Problem areas are usually first identified in the field by personnel in a positions to directly observe negative effects. Corrective action and associated research would normally be handled at an Agency level if significant funds or policy decisions are involved. Specific actions to abate and control noise include the training program described above, and research on noise dosimeters, noise sources and communication being undertaken at the Bureau of Mines Laboratory in Pittsburgh.

Coordination with other Federal agencies is mostly through inter-agency committees dealing with noise and informal working relationships between groups and individuals of different agencies concerned with noise.

In-house capability is essentially limited to the mine inspector corps now in the process of being trained and a small group of Bureau of Mines Specialists headed by John N. Murphy of the Pittsburgh Mines and Safety Office of the Bureau. The Office of the Science Adviser has picked up a certain amount of familiarity with noise problems in acting as the central coordination point on noise matters for the Department of Interior.

D. A working draft has been prepared on a new program dealing with all perspectives of the coal mine noise problem. This program is now under internal review and cannot therefore be fully described at this time. It involves an evaluation of the current noise situation in mines, measuring noise and the design of new equipment that would ameliorate noise problems.

III. FISCAL

A. Current Programs

The training program for coal mine noise inspectors did not require incremental outlays in facilities or equipment. Its cost is subsumed under other activities of the Coal Mine Health and Safety Program. The sonic boom monitoring program for the western parks is funded by the FAA. Supporting costs for Interior are included under other operating programs of the National Park Service.

Future Interior program plans in the noise field are almost entirely limited to the coal mine noise study noted above.

Facilities costs and personnel costs for the on going noise programs of the Bureau of Mines (other than the training program) are estimated at $45,000 for the in-house research described above and $19,000 for an acoustical research inventory contracted to Hydrospace Research Corp. F. Y. 1972 work has tentatively been slated to include a continuation of the ongoing research at Pittsburgh ($144,000) and a $70,000 project at the Rolla, Missouri Laboratory of the Bureau of Mines on the development of noise abatement material.

An unspecified amount of research support is slated for other noise research identified by the Bureau as having high priority. As noted above, this overall F.Y. 1972 program is still under internal review.

NATIONAL SCIENCE FOUNDATION

NATIONAL SCIENCE FOUNDATION
WASHINGTON, D.C. 20550

September 1, 1971

Dr. Alvin F. Meyer, Jr.
Director
Office of Noise Abatement and Control
Environmental Protection Agency
Washington, D.C. 20460

Dear Dr. Meyer:

In response to your letter of July 30, 1971, please find enclosed the National Science Foundation's contribution to a report to Congress on noise in accordance with Title IV of the Clean Air Act of 1970. In general, this material follows the outline enclosed with your July 30 letter.

If you or your staff have any questions concerning this information, I should be glad to try to answer them or to put you in touch with knowledgeable members of the Foundation's staff.

Sincerely yours,

G. R. Toney
Special Assistant
National and International Programs

Enclosure

NATIONAL SCIENCE FOUNDATION
August 30, 1971

FEDERAL NOISE PROGRAMS INFORMATION

I. Organizational

A. National Science Foundation

B. The Foundation is authorized by its enabling act, the National Science Foundation Act of 1950 (as amended), "to initiate and support scientific research, including applied research," among other functions. There is no legislative requirement or authority for the Foundation to engage specifically in research on noise, its effects and control, and acoustics.

II. Functional

A. Overall objectives are to support meritorious proposals for research on noise effects, noise control, and acoustics.

B. Six research projects funded in FY 1970 and four funded in FY 1971, all for 24 months, are still ongoing.

1. Description: See attachments.

2. Objectives

a. The program objectives are met by the principal investigators' carrying out their research on the problems proposed for investigation.

b. The program is evaluated by assessing the results of each research project as they appear in publications and reports in the professional literature and at scientific meetings. The criteria used in this evaluation are those normally applied: the validity of results with respect to the problems investigated, the adherence to the research plan, the contribution to the body of knowledge in the field, and the usefulness of the results toward furthering subsequent efforts.

C. Procedures

1. Several areas appear to the Foundation to merit consideration as priorities for support, owing to a) the lack of fundamental knowledge of auditory processes, b) the neglect of certain noise problems in recent reviews and reports, c) the recognized need for updating information, and d) the developing sense of urgency for progress in the solution of noise problems.

a. Anatomical and behavioral studies of the auditory systems of human beings, other primates, and some lower forms of animal life, including 1) the structures of the lower auditory system and the auditory behavior which may depend upon these structures, 2) the role of signal transients, and 3) the spectral cues in the localization of sounds.

b. Noise effects on, and protection of, "blue-collar" workers in factories, transportation systems, and boiler/utility rooms of buildings.

c. Noise reduction in industrial equipment and machinery through design and the setting of standards.

d. Reduction of noise through design of equipment for homes, apartments, and dormitories.

e. Involving industry in the above and other problem areas which would benefit from an industrial engineering approach.

f. Support of conferences of selected participants (including those from Congress) for stimulation of action in specific areas of noise abatement susceptible to engineering solutions.

2. The Foundation has taken no specific actions to abate or control noise.

3. Coordination of Foundation programs with similar or related efforts by other agencies is customarily carried on through both formal mechanisms and informal communication. In noise research, for example, membership on the Noise and Radiation Panel of the FCST Ad Hoc Committee on Environmental Quality, R. & D., establishes a formal contact with the other Federal programs.

4. The Foundation performs no in-house research. Its capability consists of scientists serving on the staff as directors of programs supporting scientific research and education in the sciences. Consultants acting as proposal reviewers and as members of advisory committees and panels may have scientific, engineering or industrial experience in noise programs.

5. There are no specific plans for upgrading noise programs in the Foundation. However, increased awareness of the role played by noise in daily life is expected to result in a greater number of worthwhile proposals for noise-related research.

D. For the near future the Foundation will continue to support unsolicited meritorious proposals and will encourage the submission of proproals from academic and other groups engaged in research on noise problems and acoustics.

III. Fiscal

A. Current Program

1. The total real property value of facilities and equipment used for Foundation-supported noise research cannot be determined. The Foundation funded equipment purchases for noise research amounting to $99,200 in fiscal years 1968 through 1971.

2. The Foundation has no specific allocation of FY 1972 funds for noise research. Support of proposals in all fields of science is generally decided on the basis of merit, as determined by outside reviews and staff evaluations.

3. Personnel

a. The Special Engineering Program director and secretary spend approximately 15 percent of their working time on the program subdiscipline, Acoustics and Noise Control. In the Psychobiology and the Neurobiology Programs, two program officers and a secretary devote about 12.5 percent of their effort to audition proposals.

b. Proportional salaries for noise program management in the three program areas amounts to about $15,000 annually.

4. Contracts, grants, loans, and subsidies

a. Six current projects funded in FY 1970 for 24 months are 80 to 90 percent completed. Four research projects funded for 24 months late in FY 1971 are 10 to 15 percent completed.

b. Funding by project: See attachment.

c. Total research expenditures for ongoing projects

FY 1970	$197,000
FY 1971	175,000
Total	$372,000

B. Past and Future Programs

1. Past programs

a. For FY 1969 through FY 1971, the total of 23 grants for noise-related research amounted to $641,000.

b. In the fiscal years 1968 through 1971 the Foundation awarded a total of $99,200 in grants for equipment acquisitions for research on noise and acoustics.

2. No projections for future noise research have been made. However, dependent upon the number and quality of proposals and available funds, it is expected that obligations for research on noise problems and acoustics and for facilities acquisitions will increase.

IV. The Foundation has no authority or responsibility for regulation or certification of activities in the field of noise pollution.

Attachments: 11

III. A.4.b. Funding of ongoing projects

Title	Institution	Prinicipal Investigator	FY	Duration (mos.)	Amount
Behavioral and Anatomical Investigation of the Auditory System in Mammals	Boston U.	J.M. Harrison	70	24	$40,000
Acoustic Transients: A Study of Waveform Parameters	U. of Chicago	S. Zerlin	70	24	34,700
Sound Reinforcement by Structural Interaction	M.I.T.	S.H. Crandall	70	24	38,500
The Performance of Acoustic Filters	U. of Mo.-Rolla	W.S. Gatley	70	24	26,000
Electrical Stimulation of Subcortical Auditory Centers	U. of Pitt.	F.B. Colavita	70	24	27,500
Studies of Auditory Signal Processing	Purdue U.	R.D. Sorkin	70	24	30,300
Auditory Perception of Temporal Order	Cornell U.	U. Neisser, G.W. Wilcox	71	24	54,900
Detection of Masked Binaural Signals	U. of Ga.	W.A. Wilbanks	71	24	30,000
Physiological and Behavioral Studies of Sound Reception	U. of Ill.-Urbana	M. Salmon	71	24	40,000
Central Auditory Mechanisms	Stanford U.	J.H. Dewson III	71	24	50,100
TOTAL					$372,000

Attachment

NATIONAL SCIENCE FOUNDATION

PROJECT SUMMARY

NAME OF INSTITUTION (NSF Directory Name)	ADDRESS OF INSTITUTION (Include branch/campus & component)
Boston University	Boston, Massachusetts 02215
PRINCIPAL INVESTIGATOR — SOCIAL SECURITY NO. HARRISON, J. M.	DIVISION (OFFICE) Biological and Medical Sciences SECTION
PROPOSAL NUMBER B020103	PROGRAM Psychobiology

TITLE OF PROJECT

Behavioral and Anatomical Investigation of the Auditory System in Mammals

SUMMARY OF PROPOSED WORK (limit to 22 pica or 16 elite typewritten lines)

This research project is a two year renewal of GB-7617. The work of this laboratory is concerned with the systematic exploration of the structure of the lower auditory system and with the investigation of auditory behavior which may depend upon these structures. According to the program outlined, the PI plans to continue work in both the anatomical and behavioral areas. The goal of the anatomical work is three-old. It includes: (1) Description of cochlear nucleus and superior olivary complex in primates. The PI will investigate the cochlear nucleus and superior olivary complex in one (or more) species of large primate and to relate this to the auditory system in man. (2) Comparative variation of the superior olivary complex in primates. The PI plans to follow up the comparative work on the superior olivary complex, particularly in primates, as it is profitable to study auditory structures in primates as a guide to understanding the system in man. (3) Analysis of cellular organization of rat cochlear nucleus. It is planned to continue the study of Golgi stained rat material (about 100 brainstems) prepared by Fedlman ('69). The behavioral study includes: (a) comparative behavioral study of localization and (b) acquisition of the discrimination of location by man.

NSF Form 4, March 1968
FY-70

$40,000
24 mos.

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NATIONAL SCIENCE FOUNDATION

PROJECT SUMMARY

NAME OF INSTITUTION (NSF Directory Name)	ADDRESS OF INSTITUTION (Include branch/campus & component)
University of Chicago	Chicago, Illinois 60637
PRINCIPAL INVESTIGATOR SOCIAL SECURITY NO. ZERLIN, Stanley	DIVISION (OFFICE) Biological and Medical Sciences SECTION
PROPOSAL NUMBER B015154	PROGRAM Psychobiology

TITLE OF PROJECT

Acoustic Transients: A Study of Waveform Parameters

SUMMARY OF PROPOSED WORK (limit to 22 pica or 18 elite typewritten lines)

Transient signals have been used extensively in studies of binaural interaction. One of the reasons for the general lack of coherence in this area is our inability to describe the effects of transients on the cochlea and on the neural patterns resulting from transient stimulation.

It is not clear whether the cochlea performs predominantly a time (waveform) analysis or a Fourier (frequency) analysis on transient signals. Cochlear models suggest the former, while most psychoacoustic work has assumed the latter. It is this investigator's contention that cochlear processing of transients more closely approaches a waveform analysis.

The main emphasis of this psychoacoustic research is to clarify the relation between (1) acoustic transients and their displacement patterns on the basilar membrane (2) these displacement patterns and the resultant neural activity. These dependencies will be investigated through the interaction of timing signals arising from the two ears. Improved understanding of the parameters underlying transient stimulation will then allow study of the relations between transient and sinusoidal excitation. Clarification of both areas is an essential step in determining the extent to which the cochlea acts as either a spectrum or a waveform analyzer.

NSF Form 4, March 1968

FY-70

$ 34,700

24 mos.

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NATIONAL SCIENCE FOUNDATION

PROJECT SUMMARY

NAME OF INSTITUTION (NSF Directory Name)	ADDRESS OF INSTITUTION (Include branch/campus & component)
Massachusetts Institute of Technology	School of Engineering Cambridge, Massachusetts
PRINCIPAL INVESTIGATOR SOCIAL SECURITY NO. Crandall, Stephen H.	DIVISION (OFFICE) Engineering SECTION
PROPOSAL NUMBER K010160	PROGRAM Special Engineering

TITLE OF PROJECT

Sound Reinforcement by Structural Interaction

SUMMARY OF PROPOSED WORK (limit to 22 pica or 18 elite typewritten lines)

The acoustical design of concert halls and auditoriums is only imperfectly undertood, and designs are still based to a considerable extent on tradition and experience. The factors influencing the excitation of a concert hall by individual instruments are even less well known, and the important problem of "bass weakness", a lack of excitation by cellos and stringed basses, has hardly been investigated. With the help of a grant from he National Science Foundation Dr. Stephen Crandall at the Massachusetts Institute of Technology will undertake a study of this problem. He will look specifically at the mechanism of energy transmission from the end pin of the instrument to the stage floor and the following reradiation from the floor to the walls and to the air in the hall, with the hope of being able to enhance the energy transfer. The study will involve both analytical aspects and experimental work with actual musical instruments, the latter in both laboratory and concert hall settings.

$ 38.5 K / 24 mos. FY 70 IV;D

NSF Form 4, March 1968

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MSO:lpw
7/23/69

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NATIONAL SCIENCE FOUNDATION

PROJECT SUMMARY

NAME OF INSTITUTION (NSF Directory Name)	ADDRESS OF INSTITUTION (Include branch/campus & component)
University of Missouri-Rolla	Rolla, Missouri
PRINCIPAL INVESTIGATOR . SOCIAL SECURITY NO. Gatley, William S.	DIVISION (OFFICE) Engineering SECTION
PROPOSAL NUMBER K010844	PROGRAM Special Engineering

TITLE OF PROJECT

The Performance of Acoustic Filters

SUMMARY OF PROPOSED WORK (limit to 22 pica or 18 elite typewritten lines)

The proposed research program will complement and extend work now being completed under NSF Research Initiation Grant GK-1481. The objectives of this project are to evaluate basic acoustic filter elements using elementary theory and specially-designed equipment, and to investigate the influence of size, temperature, steady flow and intense sound levels on the performance of acoustic filters. The proposed research will, in part, complete this investigation for certain classes of silencers, with the ultimate goal of developing a systematic procedure that is applicable to a wide variety of noise control problems. Such a procedure, if available, would greatly reduce the trial-and-error testing of prototypes and make possible the incorporation of effective noise control into the initial design of new products.

$26,000/24 mos. FY 70 I,D

NSF Form 4, March 1968

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MSO:lpw
9-11-69

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NATIONAL SCIENCE FOUNDATION

PROJECT SUMMARY

NAME OF INSTITUTION (NSF Directory Name)	ADDRESS OF INSTITUTION (Include branch/campus & component)
University of Pittsburgh	Pittsburgh, Pennsylvania 15213
PRINCIPAL INVESTIGATOR SOCIAL SECURITY NO. COLAVITA, Francis B.	DIVISION (OFFICE) Biological and Medical Sciences SECTION
PROPOSAL NUMBER B017418	PROGRAM Psychobiology

TITLE OF PROJECT

Electrical Stimulation of Subcortical Auditory Centers

SUMMARY OF PROPOSED WORK (limit to 22 pica or 18 elite typewritten lines)

It is generally recognized from work on human patients that sensory experiences produced by cortical stimulation are crude and unnatural, perhaps because of the difficulty involved in entering the nervous system at its level of greatest organizational complexity. A number of recent animal experiments suggest that subcortical brain stimulation shows promise as a technique for producing sensory experiences and controlling their qualities, presumably because the artifical nature of the stimulus is progressively reduced as the neural impulses are transmitted upward through the CNS to the cortex.

Previous experimental work in this laboratory suggests that electrical stimulation of subcortical brain regions, when combined with behavioral training and testing of experimental animals, can provide a means of studying coding and transmission of sensory information by the CNS. The present program will continue and extend this line of investigation.

CNS - Central Nervous System

NSF Form 4, March 1968
FY-70

$27,500
24 mos.

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NATIONAL SCIENCE FOUNDATION

PROJECT SUMMARY

NAME OF INSTITUTION (NSF Directory Name)	ADDRESS OF INSTITUTION (Include branch/campus & component)
Purdue University	Lafayette, Indiana 47907
PRINCIPAL INVESTIGATOR — SOCIAL SECURITY NO. SORKIN, Robert D.	DIVISION (OFFICE) Biological and Medical Sciences SECTION
PROPOSAL NUMBER B014039	PROGRAM Psychobiology

TITLE OF PROJECT

Studies of Auditory Signal Processing

SUMMARY OF PROPOSED WORK (limit to 22 pica or 28 elite typewritten lines)

This project consists of a two-phased investigation of some fundamental aspects of the hearing mechanism, the two phases of the research to proceed concurrently. Phase one consists of monaural investigations of the adaptive character of auditory behavior in signal detection situations. Phase two consists of a program of binaural experimentation on the phenomenon of two-channel detection, as embodied in contralateral cueing and simultaneous detection situations. This phase of the study represents an empirical extension of the traditional Masking Level Difference (MLD) data and an attempt to evaluate a class of interaural cross-correlation models as appropriate descriptions of behavior in contralateral cueing and simultaneous detection situations.

NSF Form 4, March 1968

FY 70

$ 30,300

24 mos.

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NATIONAL SCIENCE FOUNDATION

PROJECT SUMMARY

NAME OF INSTITUTION (NSF DIRECTORY NAME)	ADDRESS OF INSTITUTION (INCLUDE BRANCH/CAMPUS & COMPONENT)
Cornell University	Ithaca, New York 14850

PRINCIPAL INVESTIGATOR	SOCIAL SECURITY NO.	DIVISION (OFFICE) AND DIRECTORATE
NEISSER, Ulric	579 30 7292	Biological and Medical Sciences
WILCOX, Gordon W.	385 32 9750	SECTION
PROPOSAL NUMBER		PROGRAM
P1B1283		Psychobiology

TITLE OF PROJECT

Auditory Perception of Temporal Order

SUMMARY OF PROPOSED WORK (LIMIT TO 22 PICA OR 25 ELITE TYPEWRITTEN LINES)

It has recently been reported that listeners cannot determine the order in which four cyclically-presented noises are occurring, if each one lasts only 200 msec. The Investigators have discovered, however, that subjects can easily tell whether the orders of two such sequences are the same or different. To elucidate this discrepancy, a systematic study of temporal-order perception will be made, both as a function of method of presentation and of stimulus duration.

Two theoretical approaches will guide this research. First, a model has been developed with the above observations which is consistent with the general approach of signal detection theory. This leads to specific predictions about the relative difficulty of various sequences. Second, since the view that cognitive processes are "constructive" is particularly applicable to the perception of temporal order, an attempt will be made to study perceptual learning as it occurs in these tasks, and also to examine the short term or "echoic" memory involved in comparing two sequences.

GB-28712
$54,900
2 years

FY 71

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NSF Form 4, Jan. 1970

1. PROPOSAL FOLDER

NATIONAL SCIENCE FOUNDATION

PROJECT SUMMARY

NAME OF INSTITUTION (NSF Directory Name)	ADDRESS OF INSTITUTION (Include branch/campus & component)
University of Georgia	Athens, Georgia 30601
PRINCIPAL INVESTIGATOR SOCIAL SECURITY NO. WILBANKS, William A.	DIVISION (OFFICE) Biological and Medical Sciences SECTION
PROPOSAL NUMBER B023936	PROGRAM Psychobiology

TITLE OF PROJECT

Detection of Masked Binaural Signals

SUMMARY OF PROPOSED WORK (limit to 22 pica or 18 elite typewritten lines)

The research described in this proposal represents a two-year renewal of research on binaural hearing initiated under NSF Grant GB-8290. The PI is specifically concerned with the problem of how the binaural system detects weak signals in the presence of noise. The research which he plans is based upon the view that an appropriate model of the binaural system is a cross-correlation mechanism that .ieves an improved signal-to-noise ratio over that required for monaural detection by detecting the change in the cross-correlation of the noise when the signal is added. This improvement in detection that occurs when listening is done binaurally has come to be called the masking-level difference or MLD. The specific aims of the research are: (1) to determine by means of parametric experiments the functional relationship between the detection performance of human observers and the change in the cross-correlation of the stimulus events to which the observer is responding: (2) to determine by means of parametric experiments the relationship between the human observer's use of a rating-scale in detection experiments and the stimulus for binaural detection: and (3) to continue the research initiated under NSF Grant GB-8290 on the frequency limits of binaural signal detection as a function of noise level.

GB-2393L
$30,000 / 2 years

NSF Form 4, March 1968
FY 71

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NATIONAL SCIENCE FOUNDATION

PROJECT SUMMARY

NAME OF INSTITUTION (NSF Directory Name)	ADDRESS OF INSTITUTION (Include branch/campus & component)
University of Illinois at Urbana	Urbana, Illinois 61801
PRINCIPAL INVESTIGATOR SOCIAL SECURITY NO. SALMON, Michael	DIVISION (OFFICE) Biological and Medical Sciences SECTION
PROPOSAL NUMBER B020766	PROGRAM Psychobiology

TITLE OF PROJECT

Physiological and Behavioral Studies of Sound Reception

SUMMARY OF PROPOSED WORK (limit to 22 pica or 18 elite typewritten lines)

On this research project, electrophysiological and behavioral experiments will examine the acoustical signaling system of fiddler crabs. From pilot experiments it has been shown that fiddler crabs possess a communicatory system based upon vibrational stimuli that is analogous to many vertebrate and insect "calling" systems in which air- or water-borne sound is utilized.

The specific objectives of this project are:

1. To define the sensitivity of selected species of fiddler crabs to pure tonal vibrations under laboratory conditions, and to natural sounds under field conditions;
2. To determine the nature of the behavioral response by females to acoustic stimuli provided by conspecific males during the reproductive period;
3. To establish the sensory basis for sound localization of males by females; and
4. To identify the physical and temporal properties of the courtship signals to which the males and females respond.

GB - 20766
$40,000 / 2 years

NSF Form 4, March 1968
FY 71

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NATIONAL SCIENCE FOUNDATION

PROJECT
SUMMARY

NAME OF INSTITUTION (NSF DIRECTORY NAME)	ADDRESS OF INSTITUTION (INCLUDE BRANCH/CAMPUS & COMPONENT)
Stanford University	Stanford, California 94305
PRINCIPAL INVESTIGATOR — SOCIAL SECURITY NO. DEWSON, James H. III	DIVISION (OFFICE) AND DIRECTORATE Biological and Medical Sciences SECTION
PROPOSAL NUMBER B025869	PROGRAM Psychobiology

TITLE OF PROJECT

Central Auditory Mechanisms

SUMMARY OF PROPOSED WORK (LIMIT TO 22 PICA OR 16 ELITE TYPEWRITTEN LINES)

In this project, continuous performance functions will be derived for the auditory sequence discrimination abilities of normal and unilaterally deafened monkeys. These functions will define, at three major stages of the experiments, the levels of difficulty of discrimination as a direct function of (a) the type of auditory sequencing (b) its duration, and (c) the controlled delay time intervening between stimulus offset and the availability to the animal of the response keys.

Seriatim surgical lesions will be made in all the experimental animals. After initial learning, unilateral ablations of the cortex of the superior temporal gyrus will be made and then, after retraining, midline section of the anterior commissure and corpus callosum will be made.

Side of ablation and status of peripheral organ will be balanced to allow two basic questions to be answered: (1) Is there a relationship between ear and cerebral hemisphere in the performance of a learned conditioned auditory sequence discrimination? (2) What is the nature and extent of interhemispheric coordination in post-ablation performance.

GB-25869X

$50,100/2 years

FY 71

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NSF Form 4, Jan. 1970

1. PROPOSAL FOLDER

THE POSTAL SERVICE COMMISSION

POST OFFICE DEPARTMENT
BUREAU OF RESEARCH AND ENGINEERING
WASHINGTON, D. C. 20260

SEP 8 1971

Dr. Alvin F. Meyers, Jr.
Director
Office of Noise Abatement and Control
Environmental Protection Agency
Washington, D. C. 20460

Dear Dr. Meyer:

In response to your letter of August 10, 1971, we are pleased to advise you that Mr. Richard W. Flohr has been designated as the contact for your office with the Postal Service. Mr. Flohr can be reached on 737-7314 or 961-7903.

The major emphasis in noise reduction effort in the Postal Service is in the workroom area. Public nuisance noise has not been a problem in Postal operations and we have no record of any complaint from neighborhoods adjacent to post offices.

The information requested in the Federal Noise Program's Information Outline is attached hereto.

Sincerely,

R. L. Allen
Director for Engineering
Engineering and Logistics Department
Mail Processing

FEDERAL NOISE PROGRAMS INFORMATION FOR ENVIRONMENTAL PROTECTION AGENCY

I. Organizational

A. Parent Agency, etc: Systems Engineering Design Branch, Mail Processing Group, U. S. Postal Service.

B. Legislative Requirements, etc.: None

II. Functional

A. Overall Program Objectives:

(1) Determine the feasibility and cost of lowering noise levels in existing postal equipment.

(2) Provide standards for the development of new postal equipment.

B. Specific Programs and Research

(1) "Sound and Vibration Control in Post Office Facilities" - (Project # 70300) This project utilizes a typical mechanized post-office to identify existing noise sources, determine what must be done to reduce noise levels (in steps) to NC-70, NC-65, and NC-60 at operator positions, and then implement prototype modifications. It will thus be possible to determine what the cost of a nationwide noise reduction would be to achieve any desire noise level. The project is now at the stage of modifying equipment to achieve a maximum sound level of NC-70, to be accomplished by mid-October. (NOTE: Present maximum noise levels are in the NC-85 range, with none of the levels exceeding Walsh-Healey Act requirements.)

(2) "OCR Model I Noise Reduction" (Project 71198) This project somewhat parallels the above described project, in that it concentrates on a single item of equipment also included in the first project. The OCR (Optical Character Reader) is the noisiest item of postal equipment and has thus been singled out for this special effort. Analysis and development will be similar to the above project, except that the two goals established are 70 and 65 dBa. This project is not yet under contract.

(3) Postal Service Specification POD-N-00458 (RDE), "Noise, Acoustic, Maximum Levels for Equipment; And Test Procedures For" - This specification is used in conjunction with the development of new postal equipment, to provide operator position noise levels not exceeding NC-60. The specification has only recently been issued and it is not yet known if the stringent requirements can be met without undue expense and sacrifice in equipment operability.

C.: Procedures

(1) Identification of problem areas and research needs: Problem areas were identified through employee complaints. Rather than try to resolve individual complaints, it was decided to prepare a comprehensive program to evaluate all noise producing equipment culminating in the above mentioned projects. The ultimate goal is maximum sound reduction at minimum cost by cost-effectively evaluating all feasible equipment and architectural modifications.

(2) Specific actions to abate and control noise: See Item IIB.

(3) Procedures for coordination with other Federal Agencies: None

(4) Extent of inhouse capability: Fully knowledgeable in state of the art techniques in measuring, analyzing, and correcting noise problems. However, limits on staff and equipment dictate the use of consultants such as the National Bureau of Standards and IIT Research Institute.

(5) Proposed new procedures to upgrade programs: None, pending results from the projects discussed in IIB.

D. Future Program Proposals and Objectives: None

III. Fiscal

A. Current Program

(1) Real property value of facilities and equipment used for noise programs: None

(2) Current operating budget (FY 72): None for facilities. See Items 3 and 4 below.

(3) Personnel

(a) Current authorization by type and number: No one is assigned full time to noise reduction programs. Project Managers are generally at PS-17 (equivalent to GS-14) level and Project Engineers at the PS-15 (equivalent to GS-13) level.

(b) Salary totals for program operation and contract management: Approx. $15,000 per year.

(4) Contracts:

Project 70300 (See Sect. IIB): $150,000 this Fiscal Year. Project now 30% complete.

Project 71198 (See Sect. IIB): Estimated cost $20,000; contract not yet awarded.

B. Past and Future Programs

(1) Past Programs: Expenditures for personnel and contracts approx. $250,000. There has been no facilities acquisition for the purpose of noise control.

(2) Future Program Plans: This will depend largely on the results of the current projects. No change in personnel level is anticipated.

IV. Regulation and Certification

A. Authority and Responsibilities: Not applicable

B. Actions taken to Implement Regulation and Certification Requirements: Not applicable, since sound levels are below the levels prescribed in the Walsh-Healey Act.

ATOMIC ENERGY COMMISSION

DRAFT
CGWelty

Atomic Energy Commission Contribution
to Information
for the ONAC Report
to Congress on
Noise Pollution Control Activities

The AEC's contribution to the ONAC report will be minimal due to the absence of signigicant environmental noise problems in all areas of AEC programmatic and regulatory authority. The information provided below is organized according to the outline, "Federal Noise Program Information" enclosed in the ONAC letter of July 30, 1971.

I. Organizational
A. Parent Agency is the Atomic Energy Commission with subdivisions as follows:

1. General Manager - Responsible for AEC's Operational Programs including research, development and production and associated activities.

2. Director of Regulation - Responsible for AEC's Regulatory Program under which the nuclear activities of others are licensed and regulated.

B. Legislative requirements and authorities for the respective AEC Programs are as follows:

1. For the General Manager's Operational Programs:

a. Public health and safety requirements set forth in the Atomic Energy Act of 1954, as amended.

b. Title IV of the Clean Air Act of 1970.

c. The National Environmental Policy Act.

2. For the Director of Regulations Regulatory Program:

a. The National Environmental Policy Act as it applies to nuclear activities licensed and regulated by the AEC.

II. Functional
A. Overall Program Objectives

1. General Manager: To protect the health and safety of the public as required by the Atomic Energy Act, to assure compliance with any environmental noise standards established pursuant to the Clean Air Act and to implement the policies and objectives of NEPA.

Draft

2. Director of Regulation: To implement the policies and objectives of NEPA.

B. Specific Programs and Research. In the absence of environmental noise problems withing the scope of activities for which the General Manager and the Director of Regulation are responsible, there are no specific AEC programs for environmental noise control or research.

C. Procedures

1. General Manager: Existing management review and appraisal programs would identify any significant noise problem areas. New procedures to upgrade these programs are not needed.

2. Director of Regulation: The * procedures ~~established~~ issued by the Director of Regulation to implement Section 102 (2) (C) of NEPA will assure that noise pollution is considered during the nuclear facility licensing process. These draft procedures are currently under revision.

D. Future Program Proposals and Objectives. There are none required.

III. Fiscal

Not applicable.

IV. Regulation and Certification. None specific to noise.

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* Federal Register Notice (36 FR 5150, March 17, 1971) of availability of Guide for Interim use and public comment by May 1, 1971.
draft

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

SEP 7 1971

Mr. Alvin F. Meyer, Jr.
Director, Office of Noise Abatement
and Control
Environmental Protection Agency
Washington, D. C. 20460

Dear Mr. Meyer:

This is in response to your letter of July 30, 1971, to Mr. Joseph DiNunno. The letter was forwarded to my office for reply.

Information on AEC noise pollution control activities is provided in the enclosure to this letter and in accordance with the subject headings appearing in your outline. The AEC's contribution to the ONAC report to Congress will be minimal due to the absence of significant environmental noise problems in those activities for which the AEC has programmatic or regulatory authority.

For purposes of the ONAC inventory of objectionable noise complaints, our survey of the activities of AEC contractors and licensees indicates that there have been no complaints of objectionable environmental noise due to these activities.

Sincerely yours,

Martin B. Biles, Director
Division of Operational Safety

OS:PC:CGW

Enclosure:
As stated above

Atomic Energy Commission Contribution
to Information
for the ONAC Report
to Congress on
Noise Pollution Control Activities

The AEC's contribution to the ONAC report will be minimal due to the absence of significant environmental noise problems in all areas of AEC programmatic and regulatory authority. The information provided below is organized according to the outline, "Federal Noise Program Information" enclosed in the ONAC letter of July 30, 1971.

I. Organizational

A. Parent Agency is the Atomic Energy Commission with subdivisions as follows:

1. General Manager - Responsible for AEC's Operational Programs including weapons development and production, reactor research and development, and physical and biological research.

2. Director of Regulation - Responsible for AEC's Regulatory Program for the licensing and regulation of nuclear materials and facilities.

B. Legislative requirements and authorities for the respective AEC Programs are as follows:

1. For the General Manager's Operational Programs:

a. Public health and safety requirements set forth in the Atomic Energy Act of 1954, as amended.

b. Title IV of the Clean Air Act of 1970.

c. The National Environmental Policy Act of 1969.

2. For the Director of Regulation's Regulatory Program:

a. Atomic Energy Act of 1954, as amended.

b. National Environmental Policy Act of 1969.

II. Functional

A. Overall Program Objectives

1. General Manager: To protect the health and safety of the public as required by the Atomic Energy Act, to assure compliance with any environmental noise standards established pursuant to the Clean Air Act and to implement the policies and objectives of NEPA.

2. Director of Regulation: To implement the policies and objectives of the Atomic Energy Act and NEPA as they apply to licensed activities regulated under the Atomic Energy Act.

B. Specific Programs and Research. In the absence of environmental noise problems within the scope of activities for which the General Manager and the Director of Regulation are responsible, there are no specific AEC programs for environmental noise control or research.

C. Procedures

1. General Manager: Existing management review and appraisal programs would identify any significant noise problem areas. New procedures to upgrade these programs are not needed.

2. Environmental noise effects of AEC licensed activities would be requested pursuant to AEC regulations implementing the National Environmental Policy Act of 1969 in 10 CFR Part 50, Appendix D.*

D. Future Program Proposals and Objectives. There are none required.

III. Fiscal

Not applicable.

IV. Regulation and Certification.

See II. C. 2. above.

*Currently under revision in light of Calvert Cliffs' Coordinating Committee Inc., et al. v. AEC et al., Nos. 24839, 24871 (D.C. CA, July 23, 1971)

FEDERAL POWER COMMISSION

FEDERAL POWER COMMISSION
WASHINGTON, D.C. 20426

IN REPLY REFER TO:
PWR-ER

Mr. Alvin F. Meyer, Jr.
Director
Office of Noise Abatement and Control
Environmental Protection Agency
Washington, D. C. 20420

AUG 19 1971

Dear Mr. Meyer:

This is in reference to your letter of July 30, 1971 addressed to Mr. A. F. Bochenek of our staff, requesting information about the Commission's activities which result in noise and its programs for noise abatement and control.

As a regulatory agency, the principal activities of the Commission consist of regulation of wholesale rates of electricity moving in interstate commerce, licensing of non-Federal hydroelectric projects and the primary transmission lines associated with these projects, and the regulation of some aspects of the natural gas industry. None of these responsibilities entail operations which result in noise generation. The Commission conducts no programs related to noise abatement. We feel, therefore, that the Commission's work is not affected by Section 402(c) of the Clean Air Act of 1970.

Although we are not directly involved at present in noise pollution problems of the utilities, there are some problems and probably will be more as time passes. We would be glad to participate in local meetings related to noise problems and shall appreciate your continuing to notify us of the schedules. You may direct such notices to me in the future.

Very truly yours,

T. A. Phillips
Chief, Bureau of Power

STATE DEPARTMENT

DEPARTMENT OF STATE
WASHINGTON

IN REPLY REFER TO:

September 1, 1971

Mr. Alvin F. Meyer, Jr.
Director, Office of Noise Abatement and Control
Environmental Protection Agency
Washington, D. C. 20460

Dear Mr. Meyer:

The Department of State does not have at present a noise abatement program.

Facilities used by the Department of State in the United States are acquired through the General Services Administration who are responsible to see that the space is adequate to permit employees to work in healthful surroundings, and that noise level tolerances are met.

Equipment used is purchased from reputable manufacturers and produces the least amount of operating noise possible.

A negative report is therefore submitted on information requested in paragraph two of your letter of July 30.

The Department is in full accord with the noise abatement program and will assist and support the program in every way possible.

Sincerely yours,

Max L. Shimp
Safety Director

TENNESSEE VALLEY AUTHORITY

TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401

September 2, 1971

Dr. Alvin F. Meyer, Jr.
Director of the Office of Noise
Abatement and Control
Environmental Protection Agency
Washington, D. C. 20460

Dear Dr. Meyer:

This is in reply to your request that we supply Federal noise program information. TVA has done a limited amount of work in the area of community noise control, although no formally organized approach has yet been undertaken on an Agency-wide scale.

The enclosed information follows the outline suggested in your letter to James A. Oppold.

Sincerely yours,

F. E. Gartrell, Dr. P. H.
Director of Environmental
Research and Development

Enclosure

NOISE CONTROL PROGRAM

TENNESSEE VALLEY AUTHORITY

I. Organizational

A. Parent agency, department, etc.

Tennessee Valley Authority
Office of Health and Environmental Science
Division of Environmental Research and Development
Industrial and Radiological Hygiene Branch

B. Legislative requirements and authority for noise function and finding

Tennessee Valley Authority Act as amended

II. Functional

A. Overall program objective

To identify and control all noise sources associated with operation of TVA facilities which may be a public nuisance or hazard

B. Specific programs and research (by individual projects)

No research is being conducted by TVA in community noise.

1. Effects of gas turbine generating plant on community noise levels - T. H. Allen Steam Plant, Shelby County, Tennessee, and Colbert Steam Plant, Colbert County, Alabama

a. Description

Community noise levels will be studied to determine the influence of gas turbine noise.

b. Objective

(1) Is the program meeting desired objectives? So far, it is.

(2) What criteria are used to evaluate the program? The incidence and nature of noise complaints from residents of the community

C. Procedures

1. Identification of problem areas and research needed. How are priorities assigned?

1. (Continued)

   Research is needed on improved methods of predicting noise levels from proposed new plants and on improved methods of measuring, analyzing, and controlling noise.

   Priorities are assigned with respect to expected noise levels at the nearest community residence. Highly populated residential areas are given highest priority.

2. Specific action to abate and control noise

   When complaints come to TVA from the community, an investigation is made of the noise source. Sound measurements are made and controls implemented if needed. For instance, emergency relief or vent-down valves may be equipped with mufflers. Air blast circuit breakers near residential areas are being installed with noise mufflers.

3. Procedures of coordination with other Federal agencies

   Every effort is made by TVA to coordinate and cooperate with other Federal agencies in industrial hygiene, radiological health, and other areas of environmental control. The same policy would be followed in community noise studies.

4. Extent of inhouse capability including consultant usage

   The Industrial and Radiological Hygiene Branch is staffed with six industrial hygiene engineers and four engineering aides. This staff carries out most of the activities in noise assessment and control. No specialists in noise are employed and no consultants are retained.

5. Proposed new procedures to upgrade programs

   A standard containing engineering criteria for noise control will be developed as soon as consensus noise standards are made available to TVA. The Industrial and Radiological Hygiene Branch hopes to employ a professional acoustical engineer for use in noise abatement activities. An engineering aide to the acoustical engineer will also be employed.

D. Future program proposals and objectives

   Community noise effects and control are treated in environmental statements for TVA projects. No specific proposals have been made for community noise control. The major noise problems in TVA involve the occupational environment, particularly in the steam-electric generating plants.

III. Fiscal

A. Current program

1. Real estate value of facilities and equipment used for noise programs

Estimated $12,000 to $15,000 as of end of fiscal year 1971 for noise surveillance and monitoring only. Estimates not presently available of additional costs involved for control of noise at TVA installations.

2. Current operating budget (fiscal year 1972)

No specific funds are designated for community noise study and control. These are activities funded from the general industrial hygiene budget.

3. Personnel

a. Current authorization by type and classification

No technical persons have sole responsibility in community noise assessment and control. Six industrial hygiene engineers and four engineering aides are assigned as needed to community noise problems when they arise.

b. Salary totals for program operation and contract management

See items 2 and 3 above

4. Contracts, grants, loans, and subsidies

None

B. Past and future programs

1. Past programs

a. Expenditures for past 3-5 years

Community noise efforts are requiring about 2 man-years per year (about $40,000 in fiscal year 1971) plus the purchase of noise-measuring and analyzing instrumentation (approximately $5,000 in fiscal year 1971).

b. Facilities acquisitioned for past 3-5 years

None

2. Future program plans

a. Projected facility costs

None

b. Projected personnel levels

Acoustical engineer, fiscal year 1972
Industrial hygiene engineer, fiscal year 1972

IV. Regulation and certification

A. Authority and responsibilities

Authority and responsibility for noise control are vested in the TVA organization responsible for the operation of the facilities involved. TVA plans to develop standards and criteria for use by design and operating organizations in community noise control.

B. Actions taken to implement regulation and certification requirements

TVA has no regulatory authority with regard to control of community noise.

TREASURY DEPARTMENT

OFFICE OF THE SECRETARY OF THE TREASURY
WASHINGTON, D.C. 20220

AUG 30 1971

MEMORANDUM TO: Mr. Alvin F. Meyer, Jr.
Director, Office of Noise Abatement and Control
Environmental Protection Agency

FROM: Richard E. Slitor
Assistant Director, Office of Tax Analysis

SUBJECT: Federal Noise Programs Information

On the basis of a canvass of the various Treasury bureaus, offices, and services, it seems fair to say that the Department has no substantial noise emission problems affecting the public and no very substantial procedures or programs dealing with noise effects and abatement in the occupational noise area.

The major problems of external noise seem to be in the Bureau of the Mint. These are discussed in the attached report by Mr. Sidney F. Carwile, Acting Director of the Mint. The Mint also has a substantial problem of internal or occupational problem noise in connection with its coin stamping machines which produce coin blanks and then stamp them into coins. This is handled in part by acoustical tiles but chiefly by employees' ear protective devices. Other sound damping measures such as protective panels around the machines would interfere unduly with operations.

The Bureau of Engraving and Printing has some internal or occupational noise problems which are discussed in the attached report from Mr. W. R. May, Safety Officer, Office of Industrial Relations, Bureau of Engraving and Printing.

The Internal Revenue Service has corrected minor occupational noise problems in the use of certain mechanical devices in handling taxpayer forms. This problem was encountered and surmounted some years ago. At the present time they have whatever occupational noise problems are associated with large computer installations and processing centers. These are deemed to be minor and no corrective programs seem to have been called for to date. A copy of the Internal Revenue Service report is attached. (To be supplied.)

The Secret Service operates or manages several firing ranges for pistol and rifle practice. Their noise problems, almost entirely internal in character, have been dealt with by conventional methods,

including the use of sound absorbent materials, acoustical baffles, and ear protectors for employees exposed to the sound of firing. A copy of their report is attached. (To be supplied.)

This brief report is designed to cover both the inventory of known noise emission sources which are objectionable per Section 402(c) of Title IV and the comprehensive information requested for use in the report to Congress in accordance with the instruction outline contained in your letter of July 30.

Attachments

OPTIONAL FORM NO. 10
MAY 1962 EDITION
GSA FPMR (41 CFR) 101-11.6

UNITED STATES GOVERNMENT

Memorandum

TO : Mr. Richard E. Slitor
Asst. Director, Office of Tax Analysis
Treasury Building, Room 4205

DATE: August 25, 1971

FROM : Sidney F. Carwile
Acting Director of the Mint

SUBJECT: Federal Noise Programs Information

Confirming your recent detailed discussion with Mr. Johnson on the need for detailed information on Federal Noise Programs Information, both external emissions, and internal noise control, we are attaching a report for the Environmental Protection Agency.

Federal Noise Programs Information

I - Organizational

A - This report covers the entire Bureau of the Mint, Treasury Department, who operate coinage mints in Philadelphia, Pa., Denver, Colorado and San Francisco, California. There is also a United States Assay Office at New York, with a Bullion Depository at West Point, New York and our Bullion Depository at Fort Knox, Kentucky, where the Nations stock of gold is stored.

B - We currently have no need for Legislation or Special Authority for Noise Function and Funding.

II - Functional

A - The overall program objective of the Bureau of the Mint would be to eliminate all external noise emissions affecting the general public. We wish also to maintain at an absolute minimum the internal noise that may be detrimental to the welfare of our employees.

B - Specific Programs:

1. Currently we have three sources of external noise emissions that have caused public complaint. They are the noise emissions from our scrubbers on our melting furnace exhausts at our Philadelphia Mint, noise emissions from our rolling mills at our Denver Mint, and noise emission from our presses at the San Francisco Assay Office which is currently minting coins.

2. Our objective is to cut down if not completely eliminate these external emissions.

a - Our current program has not fulfilled our objective.
b - No specific criteria is used to evaluate the program. We have somewhat minimized the effect but not cured it.
c - Procedures
   1. The problem areas are known and many attempts have been made to improve the condition. The priorities are in the order as mentioned in B - 1.
   2. No specific action other than our own efforts.
   3. No coordination with other Federal agencies.
   4. Consultants and field teams from PHS have been made aware of our problems, with nothing tangible offered.
   5. No contemplated new procedures being planned.
d - Future Program Proposals and Objectives
   We are continuing our efforts to erradicate the external noise from our scrubbers in Philadelphia. In Denver, the proximity of our rolls to the windows, which have to be opened in the summer, have made this project almost unsurmountable. In San Francisco, the noise coming out of open windows is difficult to overcome in our neighborhood.

III - Fiscal

A. Current Program

1,2,3, & 4 no appropriated funds for our requirements, nor has any specific personnel been expressly assigned to any of the projects.

B. Past and Future Programs

1 a. - On a continuing basis, we have done what could be done to keep noise at a minimum. The record of expenditures for this purpose has not been detailed.
1 b. - No facility aquisitions in the past 3 to 5 years.
2 a. - There is no current knowledge of what projected facilities costs may be.
2 b. - No knowledge of projected personnel levels in any facilities. These vary considerably with our production requirements.

IV - Regulation and Certification

A - We are knowledgeable of our authority and our responsibility to make corrections.

B - Prior to the Clean Air Act of 1970, we did improve on a continuing basis our noise problems. We have never accomplished all that needs to be done. The use of noise absorbing devices is not too practical in some of our facilities. With sufficient funding and the use of accoustical experts, either from government or the private sector, much may be accomplished. The Office of Noise Abatement and Control may be interested in visiting our facilities and on a first hand basis, become knowledgeable of our problems. It will be noted that in Philadelphia, the external emission of noise from our rolls and stamping presses is not a factor due to the design of our new building. Our external emission problem in this facility is only from the exhaust of our scrubbers. In Denver and San Francisco, we are operating in old buildings and at times with the windows open, the external emissions are quite high. Denver is in the process of building a new facility at a new location and a newer design would eliminate many of its current problems. San Francisco has a facility in a highly populated neighborhood and some definite changes may be called for here.

UNITED STATES GOVERNMENT

Memorandum

BUREAU OF ENGRAVING AND PRINTING

TO : Mr. Richard E. Slitor
Assistant Director
Office of Tax Analysis
The Department of the Treasury

DATE: August 25, 1971

FROM : W. R. May, Safety Officer
Office of Industrial Relations

SUBJECT: Federal Noise Programs Information

According to information from our Office of Engineering, Office of Research and Technical Services, and the Safety Office, this Bureau does not have any noise problems that have an effect on the public welfare.

The few internal noise problems that might have had an effect on our employees were corrected by the installation of acoustical tile, changing air motors to electric motors on a panagraph machine, and providing employees with earmuffs and cotton ear plugs.

We have the capability to take audiometer readings and they are taken when we feel the sound levels might be high due to some new equipment installations.

In summary, the Bureau of Engraving and Printing does not appear to have any noise emission problems that meet the criteria mentioned in Mr. Alvin F. Meyer, Jr.'s letter of July 30, 1971.

UNITED STATES GOVERNMENT

Memorandum

TO : Mr. Richard E. Slitor
Office of Tax Analysis

DATE: August 31, 1971

U.S. Secret Service
File No. 616.92

FROM : Chief, Administrative Operations
Division, U.S. Secret Service

SUBJECT: Noise Abatement and Control

As you know, the U.S. Secret Service does not operate any noise producing items that would affect the general public. However, our employees are subjected to noise in firing ranges that exceed safe levels.

The Department of Health, Education, and Welfare conducted a study recently which included certain recommendations on noise control in firing ranges. As a result of their findings, we have instituted the following controls:

1. All shooters must wear protective ear muffs or ear plugs when firing.

2. All range officers and firearm instructors should wear protective ear muffs or be fitted with custom ear plugs.

3. Shooters in waiting areas should stand away from the open door to the firing ranges unless they wear ear protection.

4. A hearing conservation program which must include periodic audio-metric testing for employees of the firing range has been instituted.

5. Ear protection and a hearing conservation program has been extended to all of our firing ranges.

6. Ranges under construction will include rigid specifications to insure that maximum noise control measures have been included.

Please contact me at extention 8558 if you require any further information.

M. Kerneklian

M. Kerneklian

to: Mr. Richard Slitor, Assistant Director
Office of Tax Analysis, Department of the Treasury

from: Chief, Protective Programs Branch A:FM:PR

subject: Noise Control

As requested, attached is the portion of our regulations in the Internal Revenue Manual pertaining to identifying and reporting hazardous conditions which might be injurious to our employees. These requirements have been in effect in the Treasury Department for many years.

I am not aware of the existence of any specific noise problem affecting Service employees nor have any been reported to my office in recent years. The only incident I recall occurred in the late 50's, I believe, in our Southwest Region. An employee alleged a hearing loss as a result of operating a bursting machine. We had the Public Health Service make a survey and provide recommendations upon which we acted at the time.

If there are any noise problems in the Service, they would probably be in the computer rooms at our key data processing facilities. However, we do not believe that noise in this area exceeds any established standards. Since we are not aware of any problem, we do not have any positive program of control.

I am not aware of any noise emission problems emanating from any Service installation which affects the public.

Edward E. Dougherty

Edward E. Dougherty

Attachment

Purpose

This Memorandum transmits revised text for IRM 1(16) 10, Safety Program.

Removal and Insertion of Pages

Remove

Table of Contents 1(16)00 — 1(16)66
Text 1(16)00 — 1(16)15.3
Exhibits 1(16)10-1 — 1(16)10-9—Cont.

Insert

Table of Contents 1(16)00 — 1(16)66
Text 1(16)00 — 1(16)16.7:(4)
Exhibits 1(16)10-1 — 1(16)10-11—Cont.

Nature of Changes

This Section has been changed to conform with the new Treasury Regulations for Reporting Accidents, Conducting Investigations and Processing Claims and Treasury Regulations under the Military Personnel and Civilian Employees' Claims Act of 1964. Other changes have been made to provide uniformity of terminology, establish procedures for determining eligibility for safety awards, and to reflect other changes in the program. Some of the more significant changes are:

IRM 1(16)11.4 has been amended to assign the National Office Facilities Branch the responsibility for the accident and fire prevention programs for the National Office complex.

IRM 1(16)11.5 and other subsections, as appropriate, have been amended to require the preparation of Optional Form 26, Data Bearing Upon Scope of Employment of Motor Vehicle Operator, in addition to the Standard Form 91 for each automobile accident.

IRM 1(16)11.6 has been changed to provide a more specific criteria for participation in field Federal Safety Councils.

IRM 1(16)12.3 has been added to require each region and the National Office Facilities Branch to submit a monthly memorandum report showing mileage driven by Service-owned or operated vehicles.

IRM 1(16)13.6 has been added to reflect reports required of the field and the National Office Facilities Branch.

IRM 1(16)14.32 and 1(16)14.33 have been changed to broaden the criteria for informal and formal investigations. Formal investigations will not be required unless property damage exceeds $250 and other criteria are met. This change has been reflected throughout the section wherever applicable.

IRM 1(16)14.34 has been added to establish procedures specifically for reporting accidents involving GSA vehicles to the GSA Motor Pool Manager. This report is in addition to accident reports required elsewhere in IRM 1(16)10.

IRM 1(16)14.41 has ben amended to require that Standard Form 91 and Optional Form 26 be forwarded to the supervisor within 24 hours after the accident. It also requires the supervisor to forward necessary reports within 48 hours after the accident; eliminates notification of an employee's return to duty status; and requires instead that an estimate of the man days of expected loss be shown in Item 21 on Standard Form 92.

IRM 1(16)14.42 has been amended to no longer require the preparation of the Annual Federal Tort Claims Report but includes a requirement for an Annual Report on Claims Paid Under the Military Personnel and Civilian Employees' Claims Act of 1964.

IRM 1(16)14.52 has been added to establish procedures for handling claims filed by Service employees under the provisions of the Military Personnel and Civilian Employees' Claims Act of 1964.

IRM 1(16)14.53 has been added to clarify those circumstances when an employee may advise private parties of their rights to file claim against the Service without such advice being considered encouraging or soliciting claims.

IRM 1(16)14.6 has been added to require reporting to his supervisor immediately any citations for a traffic violation resulting in an accident while on official business and to provide legal counsel to any Service employee in this connection.

IRM 1(16)15.1 through 1(16)15.23 have been changed to show the use of the Commissioner's Safety Award which replaces the Secretary's Safety Award; to change the period for permanent possession of the Annual Regional and Annual Service Center Safety Awards; to include the Internal Revenue Service Data Center as being in competition for the Commissioner's Safety Award; and to reflect that the disabling injuries at service centers will now be changed against the regional disabling injury frequency rate in determining the winner of the Annual Regional Safety Award.

IRM 1(16)15.3 has been added to require maintenance of accident statistics by regional and district offices, service centers, and the National Office Facilities Branch for determining eligibility for safety awards; sets forth the procedures to be followed in computing eligibility; and requires notification to the Protective Programs Branch, National Office, when components become eligible for an award.

IRM 1(16)16 has been added to provide guidelines and procedures for a Board of Inquiry in determining the cause of all work-connected accidents or occupational diseases which result in death or serious injury to Service employees or to non-Federal persons as a result of Service activities, and recommending corrective action to prevent recurrences.

This procedure also requires a report to the Assistant Regional Commissioner (Administration), or the Assistant Commissioner (Administration) for National Office employees, by TWX or telephone within 48 hours after such accident or occupational disease. The information will be immediately forwarded by TWX or telephone to the Chief, Protective Programs Branch.

Effect on Other Documents

The following Manual Supplements *remain in effect* supplementing IRM 1(16)10:

CR 1(16)G-4, dated December 27, 1961

CR 1(16)G-4, Amend. 2, dated November 8, 1963

The following Manual Transmittals are now obsolete:

1(16)00-14, dated December 28, 1964
1(16)00-15, dated January 25, 1965

Bruce McNair

BRUCE MCNAIR
Director, Facilities Management Division

TABLE OF CONTENTS

1(16)10 SAFETY PROGRAM

1(16)11 General Provisions

1(16)11.1 SCOPE

(1) Accidents involving Government property and employees represent great annual loss, not only in money but in employee efficiency and suffering resulting from injury or death occurring in many such accidents. A large percentage of the yearly accident total can be prevented and loss to the Government can be materially reduced if every employee of the Internal Revenue Service accepts his or her responsibility for maintaining a constant personal effort to prevent accidents.

(2) The Internal Revenue Service safety program is aimed at preventing accidents and consists generally of the promotion of "safety-consciousness" among employees through training and education; participation in fire drills; enforcement of safety instructions; indoctrination of personnel in safe driving practices; as well as other methods which tend to ensure the safety of employees and to substantially reduce accidents and injuries. In addition, the program includes the immediate reporting and investigation of accidents; prompt analysis of accidents and corrective action to prevent recurrence; inspections for physical hazards in offices and elimination of such hazards when discovered; and specific rules for use and inspection of motor vehicles.

16)11.2 AUTHORITY

Public Law 357, approved October 14, 1949 (which amends the "Federal Employees' Compensation Act"), authorizes and directs the heads of all agencies and departments to develop, support and foster organized safety programs for the purpose of reducing the number of accidents and injuries among Government employees.

1(16)11.3 OBJECTIVES

It shall be the objective of the Internal Revenue Service to reduce to an absolute minimum the number of accidents and injuries to employees and to the public as a result of its operations; to encourage safe practices; and to eliminate work hazards and health risks.

1(16)11.4 RESPONSIBILITIES

(1) The Assistant Commissioner (Administration) has overall responsibility for the development, coordination and administration of the Service program for accident and fire prevention, accident reporting, and handling of claims.

(2) The Protective Programs Branch, A:FM:PR, is directly responsible for the formulation and coordination of the overall Service safety program; the development of accident reporting procedures; the final review of all accident reports for adequacy and for ensuring that all necessary corrective action has been taken; for maintaining the original files of accident reports submitted in accordance with prescribed procedures; and settling and coordinating the handling of all claims submitted under the Federal Tort Claims Act and the Military Personnel and Civilian Employees' Claims Act of 1964 (P. L. 88-558).

(3) Regional Commissioners are responsible for the safety of all personnel under their jurisdiction and shall ensure the installation and development of adequate accident and fire prevention programs within their respective regions. Officials, supervisors, and employees in the offices of the Regional Inspector and Regional Counsel are requested to cooperate and participate in these programs.

(4) The National Office Facilities Branch, is responsible for developing and administering adequate accident and fire prevention programs for the National Office complex.

(5) Supervisors and officials at all levels in both the National Office and the field are responsible for the day-to-day operation of safety programs within their organizational units. They are expected to train all employees in safe practices, to make every effort possible to correct safety and fire hazards, and to reduce accidents through such methods as:

(a) Enforcement of compliance with specific safety instructions;

(b) Prompt investigation and analysis of accident reports with corrective action, when necessary;

(c) Periodic inspections during the day of space not constantly occupied by personnel where a definite fire hazard exists;

(d) Establishment of "No Smoking" areas where fire hazards exist; and

(e) Encouragement of employees to participate in first aid and other types of training in safety.

(6) Employees shall report all physical and health hazards to their supervisors.

(7) Responsibility for coordinating the safety program should be vested at all major levels in one person who should be designated as safety officer.

1(16)11.5 TRAINING AND EDUCATION

(1) "Safety-consciousness" among employees should be promoted through such methods as:

(a) Procuring and using, where necessary, technical and educational publications, posters, and other material from the National Safety Council and other sources;

(b) Discussing specific safety problems at staff meetings and employee meetings, as appropriate; and

(c) Introducing safety into training programs for employees engaged in duties which experience has shown produce frequent injuries.

(2) Safety training should be made available to safety inspectors, key supervisors, persons responsible for a safety program, or other employees as appropriate. Such training is authorized under the Government Employees'

(1(16)11.5 TRAINING AND EDUCATION—Cont.)

Training Act and may be provided by the Department of ... or non-Governmental sources such as the National Safety Council.

(3) All employees should be instructed as to the location of the nearest fire alarm box; how an alarm must be turned in; responsibility for turning in alarm immediately; the need for closing windows and doors and leaving the building without crowding and undue haste in the event of fire; location of the emergency room or first aid station; the need for treatment; and the proper reporting of injuries or accidents.

(4) The Treasury Department Safety Council "Driver's Manual" should be made available to each driver of Government-owned vehicles and privately-owned vehicles on official business. These drivers should be instructed as to their responsibility for safe driving; for reporting accidents; and for keeping a Form 2021, Vehicle Accident Instructions, on their person, a SF–91, Operator's Report of Motor-Vehicle Accident, Optional Form 26, Data Bearing Upon Scope of Employment of Motor Vehicle Operator, and any other required forms in their vehicles at all times. Vehicles used by enforcement personnel need not contain these items if the official in charge of the activity feels that they might cause the identity of the employee to become known and result in danger to the employee or a lessening of the effectiveness of his enforcement activities. This does not, however, exempt enforcement employees from completing the required forms in the event of an accident.

1(16)11.6 ADDITIONAL ACCIDENT PREVENTION ACTIVITIES

(1) Additional aids in the development of an effective accident prevention program are:

(a) Arranging through General Services Administration, the Department of Labor, or other appropriate agency for occasional safety inspections by safety engineers or other trained personnel, when deemed necessary, in addition to our own periodic inspections;

(b) Arranging for occasional inspections for fire hazards by the fire department or other appropriate local organizations;

(c) Where necessary in small offices, establishing first aid stations maintained by an employee trained in first aid who would be responsible for treatment of minor injuries, arranging ambulance service, maintaining lists of emergency telephone numbers, making referrals, in cooperation with the responsible supervisory officials, to the proper Federal medical officers, and other related assignments. Personnel officials have primary responsibility for the employee health program which includes all of the activities itemized in this paragraph. (Criteria for establishing first aid stations can be found in the Treasury Personnel Manual, 792);

(d) Conducting fire drills, as necessary, for purposes of testing evacuation plans and instructing employees. The size and training of building fire organizations will, of course, depend on the extent to which fire hazards exist, building construction and the like. For instance, if the building is one having a high potential fire hazard, periodic drills to acquaint employees with the best manner of evacuation in event of fire should be held, and there should be well-trained employees who can handle the initial fire fighting duties until the arrival of the fire department. On the other hand, such extensive an organization and training is not necessary in a reasonable fire-resistant building. The degree of preparation is a matter of judgment, to be determined locally, with the determination being made on the basis of providing the maximum protection for Internal Revenue Service employees. Local fire departments and GSA will aid in determining the fire hazard potential of buildings; and

(e) Representation, active participation, and attendance at meetings of Field Federal Safety Councils in all cities in which Service offices of at least 50 employees are located. If, in the opinion of the responsible official, there are reasons why continued participation in the activities of a local Council are no longer warranted, a memorandum containing the circumstances and a recommendation should be forwarded through channels to the Chief, Protective Programs Branch, for further action.

1(16)12 Motor Vehicle Safety

1(16)12.1 DRIVING PERMITS

No employee shall be permitted to drive a Service-owned vehicle, or a privately-owned vehicle on official business, unless he has a driving permit for operation of the type of vehicle to be used, and his physical condition is such that he is capable of driving the vehicle in a safe manner.

1(16)12.2 INSPECTIONS

(1) Each Government-owned vehicle must be periodically examined to determine whether it is in safe mechanical operating condition. Cars not in such condition shall be placed "out of service" until properly repaired.

(2) No seized cars, particularly those which have been adapted by the installation of more powerful engines than normal or have had other basic adaptations, shall be used until they are examined by a competent mechanic and declared to be in safe mechanical operating condition.

1(16)12.3 MONTHLY MILEAGE REPORTS

(1) Each region and the National Office Facilities Branch will submit to the Protective Programs Branch A:FM:PR, a monthly memorandum report (Report Symbol NO–A:FM–91) showing mileage driven by these two categories of vehicles:

(a) Internal Revenue Service-owned and GSA assigned;

(b) Commercial and GSA Pool vehicles.

(2) This report is due in the National Office by the 15th of the month following the reporting period.

1(16)12.3 MONTHLY MILEAGE REPORTS—Cont.)

(3) Since this information is normally available on a quarterly basis, estimates will be submitted for the st and second months and the report for the third month will be adjusted to reflect actual mileage for the quarter.

1(16)13 Physical Hazards in Offices

1(16)13.1 APPOINTMENT OF SAFETY INSPECTORS

(1) Each Regional Commissioner will ensure the appointment of safety inspectors for the regional office and all district and local offices.

(2) Each Division Director will appoint safety inspectors for all National Office space occupied by his division.

(3) A sufficient number of safety inspectors should be designated so that no individual spends more than four hours per quarter (including time for filling out reports) in safety inspection duties, and each inspector should receive a definite assignment of space to be inspected.

1(16)13.2 FREQUENCY OF INSPECTIONS

(1) Inspections of all office space for physical hazards shall be made once each quarter, but special inspections are required immediately:

(a) When there has been a major shift of furniture or equipment within the same general area or a move from one office to another;

(b) Upon the installation of equipment which might contain or create safety hazards; and

(c) Whenever the existence of a hazard becomes known to the person responsible for safety inspections, and he believes an inspection is necessary prior to taking corrective action.

1(16)13.3 DUTIES OF SAFETY INSPECTORS

Safety inspectors will inspect the office space assigned to them for the hazards listed in Par II of Form 1775, Report of Physical Hazards in Offices, (see Exhibit 1(16)-10–1), as well as any other hazards that may be observed. If a hazard is discovered which can be corrected "on the spot," the safety inspector should advise the person in charge of the immediate area and see that the correction is made. If this does not remedy the situation, the Form 1775 is to be completed and forwarded for action to the official in charge of the office or the Division Director.

1(16)13.4 REPORTS—FIELD

(1) Form 1775 with explanations and recommendations will be completed and forwarded by local offices to the district office and by the district offices to the regional office for those hazards which cannot be corrected locally or require the expenditure of funds which the particular office is not authorized to obligate. Report Symbol NO-A:FM-22 is assigned.

(2) The Assistant Regional Commissioner (Administration) should promptly telephone, if the situation is serious enough, or send a memorandum report to the Protective Programs Branch, A:FM:PR, when it is determined that a hazard exists which cannot be corrected by the regional office, General Services Administration, or other responsible agency for lack of funds or for any other reason. The report should cover details of the problem including steps taken to correct the condition, estimate of funds required, and recommendations for National Office action. Report Symbol NO-A:FM-22 is assigned.

1(16)13.5 REPORTS—NATIONAL OFFICE

(1) Each Division Director will see that an original memorandum report of any unusual items or items of interest in connection with general hazards found and corrected within the division is sent to the Facilities Management Division, A:FM:N, as they occur. Report Symbol NO-A:FM-54 is assigned.

(2) On the basis of the safety inspection reports, each Division Director will follow normal requisitioning procedure in the preparation of requests for correction of minor hazards, such as those requiring installation of electrical outlets, moving of furniture, etc. The completed Form 1775, Report of Physical Hazards in Offices, should be attached to the requisition and forwarded to the Facilities Management Division, A:FM:N, for action. If the hazard cannot be corrected for lack of funds or for any other reason, a memorandum report should be forwarded to the National Office Facilities Branch, A:FM:N, in which a complete explanation of the situation and recommendations as to corrective action are made.

1(16)13.6 REPORTS—GENERAL

(1) Each regional office and the National Office Facilities Branch, is to report by memorandum, original only, to the Protective Programs Branch, A:FM:PR, as they occur, any unusual items concerning general hazards found and corrected that could be used to promote the accident prevention program (Report Symbol NO-A:FM-54).

(2) One copy of regional, district, service center or National Office issuances concerning accident prevention, not otherwise required to be furnished the National Office, should be forwarded to the Protective Programs Branch, A:FM:PR, in order to keep the National Office informed of accident prevention activities.

1(16)13.7 CORRECTION OF HAZARDS

Every employee shall cooperate with the safety inspectors in making "on the spot" correction of hazards. Every reasonable effort will be made by all responsible officials to correct hazards.

1(16)14 Accidents, Reports, Investigations, Claims

1(16)14.1 GENERAL

(1) An effective accident prevention program requires prompt reporting and investigations of accidents and corrective action when indicated, in order to:

(a) Aid in eliminating causes of accidents;

(1)(16)14.1 GENERAL—Cont.)

(b) Help in obtaining factual data required to defend the Government against claims or suits or aid in the prosecution of claims in the Government's favor; and

(c) Protect the rights of injured employees (see IRM 1920).

1(16)14.2 DEFINITIONS

(1) As used in these instructions, the following terms mean:

(a) *Accident* is an occurrence or mishap which:

1 Takes place while the employee is on official duty and causes his injury, death or occupational disease;

2 Causes injury or death to any other person if an Internal Revenue Service employee on official duty is involved or the event occurs on property under Internal Revenue Service jurisdiction;

3 Causes damage to property of the Internal Revenue Service;

4 Causes damage to property of others if:

a Internal Revenue Service equipment or property is involved, or

b An Internal Revenue Service employee on official duty is implicated.

(b) *Motor Vehicle* is any self-propelled powered device by which a person or property may be transported, excluding self-propelled devices operated within a building for loading and transporting purposes, such as fork lifts, baggage carriers, elevators, etc.

(c) *Federal employee* is an employee of any department or agency of the Federal Government while acting within the scope of his official duties.

(d) *Non-Federal* person is any person not employed by the Federal Government. (For the purpose of these instructions this includes all Federal employees while not on official duty or while acting outside the scope of their employment.)

(e) *Disabling injury* is an accidental injury or occupational disease which occurs in the course of employment and renders an employee unable to return to a regularly assigned job on the following day or shift or to perform a regularly established job on any day or shift subsequent to the day of injury.

(f) *Informal investigation* consists of the completion of the required accident reporting forms and does not normally require a separate written report.

(g) *Formal investigation* is a thorough and detailed inquiry made by Inspection and requires a written report covering all facts obtainable pertaining to the accident.

1(16)14.3 ACCIDENT REPORTS AND INVESTIGATIONS

1(16)14.31 General

The type of report or investigation required will be determined by the type of accident involved. The guides set out below do not cover all possible type of accidents but they do outline in general terms rules for determining action required. Where the circumstances do not fall within these general rules, accidents should be called to the attention of the Protective Programs Branch with request for specific handling instructions. (See Exhibit 1(16)10 2.) In those cases where it is administratively determined that a formal investigation is not warranted, an informal investigation should be conducted in lieu thereof.

1(16)14.32 Informal Investigations

(1) Informal investigations and reports will be made under the following circumstances:

(a) Accidents involving *solely* disabling or non-disabling personal injury or death of an Internal Revenue Service employee while in a duty status and acting within the scope of employment. Only an informal investigation is required because such an accident falls within the purview of the "Employees' Compensation for Injuries" statute (See IRM 1920). However, a formal investigation may be made in lieu of an informal for death or serious injury when it is necessary for the Board of Inquiry to properly discharge its responsibility. In this case the formal investigation should be requested under authority of IRM 1(16)14.33:(1)(d);

(b) Motor vehicle accidents causing damage *solely* to Government-owned cars, regardless of amount of damage, except if the damage is $250 or more and the circumstances indicate a reasonable possibility of a claim against a non-Federal person (See IRM 1(16)14.33:(1)(b));

(c) *All* motor vehicle accidents causing *solely* damage to cars owned by employees and being operated on a reimbursable basis in the conduct of Internal Revenue Service business, regardless of amount of damage;

(d) When other Government property is damaged to an extent of more than $25 but less than $250, and the circumstances indicate the possibility of a claim against a non-Federal person(s);

(e) As a result of any fire involving or occurring on property under Internal Revenue Service jurisdiction, regardless of amount of damage; and

(f) When private property is damaged to an extent of less than $250 as a result of Internal Revenue Service activities.

1(16)14.33 Formal Investigations

(1) Formal investigations will be conducted and reports prepared under the following circumstances:

(a) When a non-Federal person suffers a personal injury or death as a result of an accident involving Internal Revenue Service activities unless the Assistant Regional Commissioner (Administration) with the Concurrence of the Regional Counsel in the field or the Director, Facilities Management Division, with the concurrence of the Chief Counsel in the National Office, determine from the circumstances that a formal investigation is not warranted;

(b) When Government property is damaged to an extent of $250 or more under circumstances which indicate a reasonable possibility of a claim against a non-Federal

(1)(16)14.33 FORMAL INVESTIGATIONS (Cont.)

person(s), except where there is a clear showing that payment for damages has been or will be made under private insurance coverage of the party at fault;

(c) When private property is damaged to an extent of $250 or more as a result of Internal Revenue Service activities, except as follows:

1 Damage to cars owned by employees and being operated on a reimbursable basis;

2 Where there is a clear showing that payment for damages has been or will be made under private insurance coverage of the party at fault; and

(d) When specifically requested by competent authority.

(2) Formal investigations will incorporate all reports (except C.A. Forms, Standard Form 91A, Investigation report of Motor Vehicle Accident, and Standard Form 92, Supervisor's Report of Accident) completed by the employee involved and his supervisor, as well as a detailed narrative statement by the investigator.

1(16)14.34 INVESTIGATIONS INVOLVING GSA VEHICLES

In addition to other required reports of motor vehicle accidents, any accident involving a General Services Administration vehicle shall be reported to the GSA Motor Pool Manager. The initial notification shall be by telephone, if possible, to the Motor Pool Dispatcher, and followed up by written report to the Manager of the Motor Pool Unit within 48 hours from the time of the accident. Copies of Standard Forms 91, 91A, and Optional Form 26, or the formal investigation without exhibits, may be used to satisfy the written report requirement.

1(16)14.4 ACTION REQUIRED

1(16)14.41 Informal Investigations

(1) In accidents involving informal investigations (see IRM 1(16)14.32), the following employees will take the following actions as a minimum:

(a) *Employee involved in accident:*

1 Render all possible assistance to the injured;

2 Obtain names, addresses, and telephone numbers of witnesses;

3 Notify appropriate local authorities immediately of the accident;

4 Notify supervisor immediately regarding the accident;

5 Take action to prevent additional damage to, or loss of, Government or private property; and

6 Prepare Standard Form 91, Operator's Report of Motor-Vehicle Accident, (see Exhibit 1(16)10-3) and Optional Form 26, Data Bearing Upon Scope of Employment of Motor Vehicle Operator (see Exhibit 1(16)10-4), and forward to supervisor within 24 hours after the accident. Indicate on the SF-91 estimated dollar value of damages to all cars involved, whether employee's vehicle was Government-owned or personally-owned, and whether the vehicle was equipped with seat belts and if so, whether or not they were being used at the time of the accident. If they were being used, a brief statement on their effectiveness in preventing more serious injury should be included. (Note: Completion of Standard Form 91 and Optional Form 26 is required for *ALL* motor vehicle accidents, including those which occur while the employee is using his personally-owned car on official business. If the employee involved in the accident is incapacitated, it shall be the responsibility of any other Internal Revenue Service employee present to take the above actions.)

(b) *Supervisor of employee:*

1 Upon receipt of report of accident, obtain information necessary to determine type of investigation called for and whether any other action is required. (If information indicates necessity for formal investigation, see IRM 1(16)14.42(1)(b) for action to be taken);

2 See that all required forms, including SF-91A (Exhibit 1(16)10-5) or 92a (Exhibit 1(16)10-6), as appropriate, are completed promptly and forwarded through channels to the Chief, Administration Division, the Assistant Regional Commissioner (Administration), or to the Director, Facilities Management Division, Attention A:FM:N, if the accident involves a National Office employee. Standard Form 92 (Exhibit 1(16)10-7) is required whenever an employee is injured. It is forwarded, within 48 hours after the accident, through channels to the regional office, or to the Director, Facilities Management Division, Attention A:FM:N, if the accident involves a National Office employee. It is reviewed to determine whether proper corrective action was taken and whether additional accident prevention measures are needed. If it is a disabling injury, the SF-92 is forwarded to the Protective Programs Branch, A:FM:PR; otherwise, it is retained by the regional office or the National Office Facilities Branch for National Office employees. (Note: If the Standard Form 92 is for an employee of the Office of the Regional Counsel or Regional Inspector, it is forwarded to the Office of the Chief Counsel or the Assistant Commissioner (Inspection) for review of corrective action taken and completion. It should then be forwarded to the Facilities Management Division, A:FM:N, for review and statistical purposes.) Refer to Exhibit 1(16)10-2 for other required forms;

3 If the employee involved in the accident is injured and his return to duty status cannot be shown on the Form 92, Supervisor's Report of Accident, (see Exhibit 1(16)10-7), an estimate of the number of days the employee is expected to lose will be shown in Item 21 of the Standard Form 92;

4 Take all action possible to remove the cause of the accident or prevent a recurrence. Such actions may include:

a Recommendations to administrative officials for elimination of physical hazards responsible for the accident;

(116)14.41 INFORMAL INVESTIGATIONS.—Cont. (11)

b Disciplinary action against the employee involved, where justified, in accordance with established procedures;

c Transmission of copy of Standard Form 92 to GSA or other agency responsible for maintenance of the building with a request for necessary corrective action; and

5 See that the employee is aware that the Bureau of Employees' Compensation requires the submission of CA forms for purposes of employee compensation. Instructions on the preparation and submission of these forms is contained in IRM 1920. The submission of these forms to the Bureau of Employees' Compensation should be made promptly. Any reports submitted later than 60 days after the date of the accident will be considered late and a detailed report to the Chief, Protective Programs Branch, A:FM:PR, fully explaining the delay, will be required.

(c) *Chief, Administration Division:*

1 Review all accident reports received to ensure that:

a All possible steps have been taken at the district level to prevent similar accidents,

b All forms have been submitted and are complete (see Exhibit 1(16)10-2); and

2 Forward all accident reports and pertinent memorandums to the Assistant Regional Commissioner (Administration) after the required action has been completed.

(d) *Assistant Regional Commissioner (Administration):*

1 Review all accident reports to determine if additional action is necessary to remove hazards so as to prevent similar accidents and to ensure that all required administrative action has been accomplished;

2 Review accident statistics in the region to determine any significant accident patterns that would indicate need for preventive action and utilize this information in determining what areas of the safety program should be emphasized;

3 Ensure that all possible efforts are made to effect satisfactory settlements for damage to Internal Revenue Service property by non-Federal persons. When there is clear liability for property damage on the part of the non-Federal person and an apparent ability to pay, every effort should be made to collect the full amount of damages. However, where there is a question as to liability or ability to pay, the Assistant Regional Commissioner, with the concurrence of the Regional Counsel, is authorized to accept whatever settlement is considered satisfactory in the best interests of the Government without referral to the National Office.

a When fault or liability is admitted or circumstances indicate that the non-Federal person or his insurance company is agreeable to accepting liability, the employee involved should immediately request authority for repair or restoration at a local garage or shop acceptable to both parties with billing direct to the non-Federal person or his insurer. As soon as repair or restoration has been completed, a statement to that effect will be forwarded to the regional office. If a release from further liability for repair or restoration of the Government property involved is required, a request for preparation of such release will accompany the statement. A memorandum must accompany the Standard Form 91, Operator's Report of Motor-Vehicle Accident, and Optional Form 26, Data Bearing Upon Scope of Employment of Motor Vehicle Operator, stating either that the case was settled satisfactorily at the local level or the details of why appropriate arrangements for repair, restoration or settlement could not be made locally.

b In cases involving damage to Service property where the circumstances appear to warrant repair or restoration of such property at the expense of a non-Federal person and such person has not agreed informally to accept liability, the details of the circumstances involved should be reported in a memorandum which should be submitted with the accident investigation report through normal channels to the regional Facilities Management Branch for referral to Regional Counsel for processing. Regional Counsel will then prepare, over his signature, a formal demand for payment of damages, if appropriate. If the collection efforts are successful, a memorandum report should be forwarded by Regional Counsel to the Chief of the regional Facilities Management Branch together with any remittance received. If Regional Counsel's collection efforts are unsuccessful and the amount claimed by the United States does not exceed $5,000 exclusive of interest and costs, Regional Counsel will determine whether or not to request the United States Attorney to institute suit to recover for the damages to the Government property. If it is determined not to request the institution of suit, the Chief of the regional Facilities Management Branch should be so advised. If the institution of suit is requested, a copy of the letter to the United States Attorney will be forwarded to the Protective Programs Branch, Facilities Management Division, National Office, Attention A:FM:PR, together with the original of the accident investigation report. A copy of the letter to the United States Attorney will also be forwarded to the Chief of the regional Facilities Management Branch. In the event collection efforts are unsuccessful and the amount claimed by the United States exceeds $5,000 exclusive of interest and costs, four copies of the accident investigation report will be prepared and Regional Counsel's complete file, including a copy of the demand letter and any reply thereto, and three copies of the accident investigation report will be forwarded by Regional Counsel to the Chief Counsel, Attention CC:AT, for consideration of legal action to recover. A copy of the transmittal letter, together with the original of the accident investigation report, will be forwarded to the Protective Programs Branch, Facilities Management Division, National Office. A copy of the transmittal letter will also be forwarded to the Chief of the regional Facilities Management Branch; and

(1)16)14.41 INFORMAL INVESTIGATIONS—Cont. (2)

4 Ensure that all Standard Forms 92 on disabling injuries and all informal automobile accident investigation reports are submitted to the Chief, Protective Programs Branch, A:FM:PR, within 30 days after occurrence.

1(16)14.42 Formal Investigations

(1) In accidents involving formal investigations (see IRM 1(16)14.33), employees will take the following action:

(a) *Employee involved in accident:* Same as required for informal investigation (see IRM 1(16)14.41:(1)(a)). However, notify your supervisor promptly if the insurance company of the party at fault pays or agrees to pay all damages.

(b) *Supervisor of employee:*

1 As soon as assured that a formal investigation is required, telephone or wire the Regional Inspector, report the circumstances of the accident and request investigation be started immediately. If the employee is assigned to the National Office, the supervisor will contact the Director, Internal Security Division. If the supervisor later receives information as to settlement of damages or other information which may render the completion of the formal investigation unnecessary, he will promptly report such information to the appropriate Inspection official;

2 Prepare a brief memorandum outlining the facts of the accident and forward this, with the required forms, except the SF–92, if one is required (see Exhibit 1(16)10–2), properly completed, to the Regional Inspector or Director, Internal Security Division, if the employee is assigned to the National Office; and

3 Forward the SF–92 to the Chief, Administration Division, the Assistant Regional Commissioner (Administration), or the Director, Facilities Management Division, as applicable.

(c) *Chief, Administration Division:*

1 In any accident arising out of the activities of the Service, other than a motor vehicle accident, in which a non-Federal person sustains or alleges to sustain personal injury, see that SF–92a is prepared for each injured and made part of the formal investigation;

2 Review SF–92 for completeness, and appropriateness of corrective action;

3 Take all possible steps to prevent similar accidents; and

4 Forward the SF–92 to the Assistant Regional Commissioner (Administration) at once.

(d) *Inspection:* Upon receipt of information indicating a necessity for a formal investigation of an accident, the Director, Internal Security Division, or the Regional Inspector, as applicable, shall:

1 Notify the Chief, Administration Division, the Assistant Regional Commissioner (Administration), or the Director, Facilities Management Division, A:FM:N, as appropriate, that the accident has occurred and that Inspection is instituting an investigation;

2 Complete the investigation as quickly as possible and set forth the findings on Form 2026, including information prepared in the format as shown in Exhibit 1(16)10-6, using SF–91, Statement of Witness, (see Exhibit 1(16)10-9), as required;

3 Forward original and two copies of the report to the Assistant Regional Commissioner (Administration) or, if National Office personnel are involved, to the Director, Facilities Management Division, Attention A:FM:N;

4 Where information is reported or developed during the investigation that satisfactory settlement of damages has been accomplished or other circumstances become known which may eliminate the need for completing the investigation, such information will be discussed with the appropriate Administration official to arrive at a decision as to discontinuance or completion of the investigation. In doubtful property-damage-only cases and in all personal injury cases, the Administration official should seek the concurrence of the Regional Counsel or Chief Counsel, as appropriate; and

5 If no investigation is accomplished and no investigative report is written, the accident reporting forms received will be forwarded as provided in 3 above.

(e) *Assistant Regional Commissioner (Administration):*

1 Complete all applicable action required in IRM 1(16)14.41:(1)(d);

2 Give thorough review to all formal investigation reports received from the Regional Inspector for indications of possible excessive claims;

3 Request the Regional Counsel to review the report of investigation if:

a Claim made appears to be excessive,

b There is a question as to the extent of injury to a non-Federal person or damage to non-Federal Property,

c Such review appears necessary to protect the interests of the Government;

4 Upon request of the Regional Counsel, make arrangements for physical examinations of non-Federal persons at the nearest Public Health hospital or clinic or by a private physician. Such examination will be performed *only* upon the authority of the Regional Counsel, who must also initial the voucher for payment for such examination. To make these arrangements a letter should be addressed to the head of the hospital or clinic, including the name and title of the Internal Revenue Service employee involved in the accident and name and address of the office where he is employed. Include a carbon copy of the letter with the original and request the Public Health facility to attach the carbon copy of your letter to the reimbursement voucher when forwarded for payment. An approved private physician may be used if a monetary saving to the Government is indicated. (See pamphlet "Medical Facilities Available to Employees of the U. S. Government Injured in the Performance of Duty Under

(1)(16)14.42 FORMAL INVESTIGATIONS—Cont.)

the Federal Employees' Compensation Act of September 7, 1916, as amended"); and

5 Forward original of the investigative report, with exhibits, to the Chief, Protective Programs Branch, A:FM:PR. One copy of the report may be forwarded to the activity concerned, if deemed appropriate. In most instances this will be the Chief, Administration Division, district office. Board of Survey action may be required in connection with damage to motor vehicles or other property or Board of Inquiry action in connection with a death or serious injury. In such a case, the regional office copy may be used when appropriate.

(f) *Protective Programs Branch:*

1 Review all accident reports forwarded from field offices and those pertaining to National Office personnel or property, to ensure that all required and appropriate measures have been taken in relation to the accident prevention program;

2 Where necessary, arrange for review of accident reports by the Office of the Chief Counsel;

3 Maintain files of all types of accident reports received, compile accident statistics and prepare reports required under the Treasury Department Safety Program;

4 Send a copy of the approved recommendations of the Chief Counsel on claims to the region concerned. This is an information copy and may or may not be accompanied by suggestions as to recommended action; and

5 Keep records of all claims and suits against the Internal Revenue Service under the Federal Tort Claims Act and the Military Personnel and Civilian Employees' Claims Act of 1964.

1(16)14.5 CLAIMS

1(16)14.51 Tort

(1) The Federal Tort Claims Act authorizes the head of each agency to settle or reject claims against the Government for $2,500 or less, and permits individuals to file suits against the Government for property loss or damage, personal injury or death caused by the negligence or wrongful act or omission of a Government employee acting within the scope of his employment. The Commissioner has delegated settlement authority to the Assistant Commissioner (Administration), the Director, Facilities Management Division, the Chief, Protective Programs Branch, and the Safety Management Officer, A:FM:PR.

(2) Claims should be filed with the Commissioner of Internal Revenue, Washington, D. C. 20224, and should be made on Standard Form 95, Claim for Damage or Injury (see Exhibit 1(16)10-10). When a claim is presented at a field office, it should be forwarded immediately through the Assistant Regional Commissioner (Administration), to the Chief, Protective Programs Branch, A:FM:PR.

(3) Upon receipt of a claim the Protective Programs Branch will attach all pertinent data, including the investigative report and forward the case to the Office of the Chief Counsel, which will prepare a memorandum to the Safety Management Officer, A:FM:PR, containing a recommendation on the disposition of the claim.

(4) All claims should be promptly date stamped by the office first receiving them.

(5) If the Chief Counsel's recommendation is for approval, he will also prepare a letter for the signature of the Safety Management Officer, notifying the claimant that his claim has been approved. He will also complete three copies of Standard Form 1145, Voucher for Payment Under Federal Tort Claims Act. The memorandum, letter and voucher forms will be attached to the investigative file and forwarded to the Chief, Protective Programs Branch, A:FM:PR, for further action.

(6) If the recommendation is for disapproval, a letter to the claimant, briefly outlining the reasons, shall be prepared by the Chief Counsel for the signature of the Safety Management Officer, A:FM:PR, and will be forwarded to that division with the file and the recommendation.

(7) If the Safety Management Officer, A:FM:PR, concurs in the recommendation of the Chief Counsel, he will sign the memorandum as evidence of his agreement and will sign the letter to the claimant. If the recommendation is for approval, the original of the SF-1145 will be forwarded with the letter to the claimant for his signature.

(8) Upon return of the signed Standard Form 1145, the Protective Programs Branch will forward it, with two copies and a copy of the approved recommendation, to the Fiscal Management Division for payment. When the claim is paid the Fiscal Management Division will return one copy of the Standard Form 1145 to the Protective Programs Branch showing dates of payment.

1(16)14.52 Militar Personnel and Civilian Employees' Claims Act of 1964

(1) Public Law 88-558, as amended, Military Personnel and Civilian Employees' Claims Act of 1964, authorizes the head of each agency to settle claims against the Government for $6,500 or less ($10,000 or less for Coast Guard) and permits employees to file claims against the Government for damage to, or loss of, personal property incident to their service where possession of such property is determined to be reasonable, useful, or proper under the circumstances. The Commissioner has delegated settlement authority to the Assistant Commissioner (Administration), the Director, Facilities Management Division, the Chief, Protective Programs Branch, and the Safety Management Officer, A:FM:PR.

(2) Treasury Department Regulations, Military Personnel and Civilian Employees' Claims Act of 1964, dated October 20, 1965, provides detailed information as to the types of claims covered by this Act.

(3) Claims should be made on Treasury Form 3079 (see Exhibit 1(16)10-11) according to instructions on the reverse side of the form and forwarded through channels to the Protective Programs Branch, A:FM:PR.

(1)(16)14.52 MILITARY PERSONNEL AND CIVILIAN EMPLOYEES' CLAIMS ACT OF 1964—Cont.)

(4) Claims should be promptly date stamped by each office receiving them.

(5) Upon receipt of a claim the Protective Programs Branch will attach all pertinent data and forward the claim to the office of the Chief Counsel which will prepare a memorandum to the Safety Management Officer, A:FM:PR, recommending disposition of the claim.

(6) Chief Counsel will also prepare a letter to the claimant approving the claim or briefly outlining the reasons for disapproval, for the signature of the Safety Management Officer, and return the file, with recommendation and letter, to the Protective Programs Branch, A:FM:PR.

(7) If the Safety Management Officer concurs in the recommendation of Chief Counsel, he will sign the memorandum and the letter to the claimant as evidence of his agreement.

(8) If the claim is approved, the Protective Programs Branch will forward the original of the letter to the claimant; one copy of the letter and recommendation to the region, or National Office Facilities Branch; prepare Standard Form 1166, Voucher and Schedule of Payments, and forward the voucher with one copy of the memorandum and the letter to the Fiscal Management Division for payment. When the claim is paid, the Fiscal Management Division will return one copy of the Standard Form 1166 to the Protective Programs Branch showing date of payment.

(9) If the claim is disapproved, the Protective Programs Branch will send the original of the letter to the claimant and one copy of the letter and memorandum to the region or National Office Facilities Branch for National Office employees.

1(16)14.53 Encouraging claims

Under no circumstances shall Service employees encourage or solicit private parties to present a claim against the Government. However, if private parties state verbally or otherwise indicate that they expect the Government to make restitution for damage, loss, or injury, or that they intend to file claim against the Government, it is not a violation of this prohibition to call attention to the Federal Tort Claims Act, and state that additional information and forms may be obtained from the regions or National Office Facilities Branch for acts involving National Office personnel.

1(16)14.6 SUITS

(1) When a claimant files suit against the United States alleging negligence on the part of an Internal Revenue Service employee, the Department of Justice will request all documents and information necessary for the preparation of a defense. This information will be furnished to the Department of Justice by the Chief Counsel.

(2) The institution of suits on behalf of the Service by the United States Attorney will be requested by Regional Counsel if the amount claimed by the United States does not exceed $5,000 exclusive of interest and costs. If, however, the amount claimed by the United States exceeds $5,000 exclusive of interest and costs, the institution of suits on behalf of the Service by the Department of Justice will be requested by the Chief Counsel.

(3) The Federal Tort Claims Act, as amended by Public Law 87-258, provides for the defense of suits against Federal employees arising out of the operation of motor vehicles in the scope of their employment in the case of accidents occurring on or after March 21, 1962. This new law makes the remedy provided by the Federal Tort Claims Act the sole remedy for property damage, personal injury, or death resulting from the operation of a motor vehicle by a Government employee while acting within the scope of his office or employment. The new law further provides that, upon a certification by the Attorney General that the defendant employee was acting within the scope of his employment at the time of the incident out of which the suit arose, any such civil action or proceeding commenced in a State court shall be removed without bond at any time before trial by the Attorney General to the district court of the United States for the district and division embracing the place wherein it is pending and the proceedings deemed a tort action brought against the United States under the provisions of the Federal Tort Claims Act. By Department of Justice Order No. 254-61, the authority to make the certification provided for in this law has been delegated by the Attorney General to United States Attorneys with the proviso that such a certification may be withdrawn if a further evaluation of the relevant facts or the consideration of new or additional evidence calls for such action. Order No. 254-61 further provides that the making, withholding, or withdrawing of certifications, and the removal and defense of, or the refusal to remove and defend, such civil actions or proceedings by the United States Attorneys shall be subject to the instructions and supervision of the Assistant Attorney General in charge of the Civil Division of the Department of Justice.

(4) Any Internal Revenue Service employee against whom a civil action or proceeding is brought for damage to property, or for personal injury or death, on account of the employee's operation of a motor vehicle in the scope of his office or employment with the Internal Revenue Service (or his personal representative, if the action is brought against his estate) shall *immediately* advise the Regional Counsel, if a field employee, or the Chief Counsel, if a National Office employee, of the details by telephone or

(1)(16)14.6 SUITS—Cont.)

tele[illegible]ph. In addition, he shall *immediately* forward all process and pleadings served upon him, or an attested true copy thereof, to the Regional Counsel or, in the case of National Office employees, to the Chief Counsel, Attention CC:AT. The employee concerned shall also promptly submit to his immediate supervisor, in triplicate, a signed report describing the duties he was performing at the time the accident occurred, the place where the trip originated, his intended destination, and any other information bearing on the question of whether he was acting within the scope of his office or employment at the time of the incident out of which the suit arose, unless such information was previously reported to his immediate supervisor on the Optional Form 26 prepared at the time of the accident. If the employee was driving a privately-owned vehicle at the time of the accident which gave rise to the suit, he shall at the same time also furnish his supervisor, in triplicate, a copy of any automobile liability insurance policy held by him. The employee sued will thereafter render any assistance and give any additional information that the United States Attorney may desire.

(5) The employee's immediate supervisor shall prepare a signed report describing the nature of the driver's duties, the instructions—if any—given him, his authorized destination, the conveyance authorized, whether he had departed from the route authorized or disobeyed any instructions given him, whether he was engaged in the [illegible]herance of his own personal interest in any way, and [illegible]y other relevant data, unless such information was previously reported on the Optional Form 26 prepared at the time of the accident. The employee's and supervisor's reports involving field employees and employee's automobile liability insurance policy, if any, shall be promptly forwarded, in triplicate, to the Regional Counsel. Reports involving National Office employees will be forwarded to the Chief Counsel, Attention CC:AT.

(6) The Regional Counsel shall promptly furnish the United States Attorney for the judicial district embracing the place wherein the action or proceeding is brought with information concerning the commencement of such action or proceeding, all process and pleadings, or an attested true copy, the reports of the employee and supervisor, and a copy of the employee's automobile liability insurance policy, if any. The Chief Counsel shall furnish the same information with regard to suits involving National Office employees.

(7) The Regional Counsel shall forward, in duplicate, to the Chief Counsel, Attention CC:AT, copies of the same information and all documents furnished the United States Attorneys. The Chief Counsel will in turn forward one copy to the Chief of the Torts Section, Civil Division, Department of Justice, if the amount sought exceeds $5,000 or if the Department of Justice otherwise requests it.

(8) The Regional Counsel or the Chief Counsel will keep the Assistant Regional Commissioner (Administration), or the Director, Facilities Management Division, as appropriate, or their designees, currently informed of the status of all suits which are within the purview of the Federal Tort Claims Act.

(9) A copy of IRS Document No. 5418, "Lawsuits Affecting Internal Revenue Service Drivers," shall be furnished to each employee who has occasion to drive a vehicle on official business.

(10) Should a suit (not arising out of the operation of a motor vehicle) be filed against an employee of the Internal Revenue Service, or if an employee is charged with violation of criminal laws, as a result of the performance of his official duties, it should be reported immediately to the Regional Counsel (Chief Counsel in the case of National Office employees). In the case of civil suits, the employee should also furnish a copy of any insurance policies that may cover his liability. If the employee desires legal representation by the United States Government, he should so advise the Regional Counsel or the Chief Counsel, as the case may be. Prompt notification is necessary since it may be found desirable to remove the case to a United States District Court which, in a civil action, must be effected within 30 days from the date the complaint was served on the employee, and in a criminal case the removal must be effected before trial. (Under ordinary circumstances, a request for the United States Attorney to afford legal counsel is made through the National Office. When time does not permit, the United States Attorney will, upon request of the local official in charge, afford legal counsel to Government employees who are sued civilly, or charged with violation of criminal laws, as a result of the performance of their official duties. Should such a request for legal counsel be made locally to the United States Attorney, a report thereof should be made as soon as possible through channels to the Director, Facilities Management Division, by the local official who made the request.)

(11) Reporting Traffic Citations: As a plea of guilty in traffic court may be introduced as evidence in a civil action, it is imperative that all Service employees obtain legal counsel if they are cited for a traffic violation while in performance of official business resulting in an accident, before entering such a plea in court. It is the responsibility of the individual driver who is cited for a traffic violation resulting in an accident, to report such incident to his supervisor immediately. The supervisor will be responsible for reporting the incident to the legal counsel of his office. IN NO CASE SHOULD A SERVICE EMPLOYEE PLEAD GUILTY TO A TRAFFIC VIOLATION CHARGE RESULTING IN AN ACCIDENT WITHOUT ADVICE AND COUNSEL OF A REPRESENTATIVE OF THE CHIEF COUNSEL'S OR REGIONAL COUNSEL'S OFFICE.

1(16)15 Safety Awards

1(16)15.1 GENERAL

(1) There are four types of safety awards issued to major organizational components of the Service for outstanding safety performance:

(a) The Commissioner's Safety Award, in the form of a certificate signed by the Commissioner, is presented to designated organizational components to recognize outstanding performance over a sustained period of time.

(b) The Internal Revenue Service Annual Regional Safety Award, in the form of a plaque, is presented each year to the region with the lowest disabling injury frequency rate during the preceding year.

(c) The Internal Revenue Service Annual Service Center Safety Award, in the form of a plaque, is presented each year to the service center with the lowest disabling injury frequency rate during the preceding year.

(d) The National Office Annual Safety Award, in the form of a plaque, is presented each year to the major functional area in the National Office with the lowest disabling injury frequency rate during the preceding year.

1(16)15.2 ELIGIBILITY

1(16)15.21 Commissioner's Safety Award

(1) Each regional office, each district office, each service center, the National Computer Center, the Data Center, and the National Office will be eligible to receive this award for the completion of 1,000,000 man-hours of work without a disabling injury or one year without a disabling injury, whichever occurs first.

(2) Since regional offices are directly responsible for field activities of the Alcohol and Tobacco Tax and Appellate Divisions, disabling injuries involving employees of those divisions, regardless of the employees' location at the time, will be charged to the regional office.

(3) Disabling injuries involving employees of the offices of the Regional Counsel and the Regional Inspector will be charged to the office of the Chief Counsel and the Assistant Commissioner (Inspection), respectively.

1(16)15.22 Internal Revenue Service Annual Regional Safety Award

(1) Eligibility for this award is limited to entire regions, including injury experience of the service centers. The region with the lowest disabling injury frequency rate (number of disabling injuries per million hours worked) during the calendar year will be presented the plaque in the spring of the following year.

(2) The region which wins this plaque may retain it for one year. At the end of that year they will receive a small plaque as evidence of having won the award.

(3) A region winning the Award three times during a 10-year period will gain permanent possession of the plaque.

1(16)15.23 Internal Revenue Service Annual Service Center Safety Award

(1) The service center with the lowest disabling injury frequency rate during the calendar year will be presented this plaque in the spring of the following year.

(2) The winning service center may retain the plaque for one year. At the end of that year, they will receive a small plaque as evidence of having won the Award.

(3) A service center winning the Award three times during a 10-year period will gain permanent possession of the plaque.

1(16)15.24 National Office Annual Safety Award

(1) An awards program has been established among the major functional areas in the National Office. They are the functional areas of each Assistant Commissioner and the Chief Counsel. The injury experience of the employees of the offices of the Regional Counsel and the Regional Inspector will be included in the appropriate functional area for this purpose.

(2) The functional area with the lowest disabling injury frequency rate during the calendar year will be presented a plaque in the spring of the following year. The plaque may be retained for one year. In the event of a tie, the winning functional areas will each retain the plaque for an appropriate portion of the following twelve months.

(3) A functional area winning the Award three times during a 10-year period will gain permanent possession of the plaque.

1(16)15.3 REPORTS AND STATISTICS

(1) Each regional office and the National Office Facilities Branch will, when appropriate, submit a memorandum to the Chief, Protective Programs Branch, National Office, recommending the issuance of the Commissioner's Safety Award to the eligible component. If the award covers twelve months without a disabling injury, the date of injury and name of the employee who was injured on the day before and, if any, after the period of eligibility will be included.

(2) If the award covers one million man-hours of work, or more, without a disabling injury, the figures and method used for computation and dates involved will be included. The following simple method should be used in this computation:

(1(16)15.3 REPORTS AND STATISTICS—Cont.)

Method of Computation

(Standard man-hours per year for each employee = 2000)

Formula:	Days or Months	×	Hours	×	Employees [1] on roll	= Man-hours
Periods of 1 month or more	Number of Months	×	173 per mo. [2]	×	Number	= Total
Periods less than 1 month	Number of working days	×	8 per day	×	Number	= Total

[1] On rolls at the end of month or nearest the end of month, as shown in the monthly Personnel Report.

[2] For December use 177 hours.

Example:

A district with 950 employees each month for the period January through July with no disabling injuries until July 15.

January 1 — June 30	6	×	173	×	950	= 986,100
July 1 — July 15	11	×	8	×	950	= 83,600
						Total 1,069,700

(3) The National Office Facilities Branch will maintain statistics and determine eligibility for the National Office Annual Safety Award.

(4) The Protective Programs Branch, National Office, will maintain statistics to confirm eligibility for the Awards and for other purposes, and will prepare and forward Awards to eligible components upon request.

1(16)16 Board of Inquiry

1(16)16.1 GENERAL

(1) Boards of Inquiry are set up to determine the cause of all work-connected accidents or occupational diseases which result in death or serious injury to Service employees or to non-Federal persons as a result of Service activities, and recommend corrective action to prevent a recurrence.

(2) A serious injury is, for this purpose, one which results in a loss of time from work of 30 or more calendar days. The Board will also consider suicides and heart attacks only if alleged to have occurred as a result of overwork, job-pressures, or a similar work-connected cause. It is not the intent that every suicide or heart attack case be a matter requiring Board attention. Some disabling injuries resulting from falls, improper lifting, or other causes may not be immediately discernible as a serious injury. However, if it later appears likely that, as a result of the initial injury, there will be a loss of time from work of 30 or more calendar days, or if death results, the report required in IRM 1(16)16.4 will be submitted.

1(16)16.2 BOARD OBJECTIVES

(1) The Board has the following two major objectives:

(a) Determine from a review of the report of investigation or by other means, the circumstances and cause of the accident which resulted in the serious injury or death; and

(b) Make recommendations for corrective action to prevent a recurrence of similar accidents.

1(16)16.3 NATIONAL OFFICE

The National Office Board of Inquiry will follow field procedures except that substitutions in IRM 1(16)16.4 through 1(16)16.62 will be made as follows:

Director, Facilities Management Division, for
Assistant Regional Commissioner (Administration)

National Office Safety Officer for
Regional Safety Officer

Assistant Commissioner for
Assistant Regional Commissioner

1(16)16.4 INITIAL REPORTING OF SERIOUS INJURIES OR DEATHS

(1) It remains the responsibility of each supervisor to see that accident reports are promptly prepared and submitted. An initial report or notice of a work-connected death or serious injury of a Service employee or non-Federal person will be submitted by TWX or telephone to the Assistant Regional Commissioner (Administration) within 48 hours after the accident. The information received by the regional office will be forwarded immediately via TWX or telephone to the Chief, Protective Programs Branch (A:FM:PR). The initial report should cover as a minimum the following information:

(a) Name of deceased or injured

(b) Federal or non-Federal person

(c) Job title

(1(16)16.4 INITIAL REPORTING OF SERIOUS INJURIES OR DEATH—Cont.)

(d) Circumstances and cause

(e) Location and time

(2) The Assistant Regional Commissioner (Administration) should refer this information to the Regional Safety Officer who will carefully review it and determine whether the accident meets the criteria for convening a Board of Inquiry. He will then make the appropriate recommendation to the Assistant Regional Commissioner (Administration).

(3) The initial notice of a work-connected death or serious injury does not eliminate the reporting requirements of IRM 1(16)14.

1(16)16.5 CALLING OF BOARD

(1) *Required*—The Assistant Regional Commissioner (Administration) shall call a Board of Inquiry for all cases of work-connected death or serious injury of Service personnel, or death to non-Service personnel as a result of Service activities.

(2) *Discretionary*—The Assistant Regional Commissioner (Administration) may call a Board of Inquiry whenever he feels circumstances warrant such action.

1(16)16.6 BOARD MEMBERSHIP

1(16)16.61 Chairman

The Assistant Regional Commissioner (Administration) or his appointed representative will be the permanent chairman of Regional Boards of Inquiry.

1(16)16.62 Other Members

(1) In addition to the Chairman, each Board shall be composed of the following membership:

(a) Assistant Regional Commissioner, or his appointed representative, of the activity of the employee involved;

(b) Regional Safety Officer;

(c) Personnel Officer or his appointed representative (Technical Advisor-Non-Voting); and

(d) The Service Safety Management Officer may serve as an advisory (non-voting) member at the invitation of the Regional Commissioner or at the discretion of the Chief, Protective Programs Branch, A:FM:PR.

(2) Appointed representatives may include district or service center personnel.

(3) It may be desirable to include a representative of the General Services Administration or the Department of Labor as a non-voting member of those Boards considering cases in which these agencies have an interest or could render assistance.

1(16)16.63 Board Chairman Responsibilities

(1) The Chairman shall be responsible for:

(a) Ensuring that the report of investigation and other information are circulated to all Board members prior to convening the Board;

(b) Calling the Board of Inquiry promptly but not later than 30 days after the death, serious injury, or occupational disease, or as soon as possible after any formal investigation is available;

(c) Notifying in writing all Board members and witnesses of the time, date, place, and case to be heard by the Board;

(d) Sending a copy of the notification to the Assistant Commissioner (Administration), A:FM:PR, in sufficient time to permit representation by the Service Safety Management Officer, if necessary;

(e) Ensuring that the proceedings are not open to the public and that employee supervisors and non-Board members are not present as observers during the hearing; and

(f) Ensuring that a report, summary, and recommendations are prepared and submitted as prescribed in IRM 1(16)16.7.

(2) The Chairman will assume the responsibility for protecting the interests of a deceased employee, when matters prejudicial to the character, standing, or efficiency of the employee arise by requiring further investigation, if necessary, to establish the facts.

1(16)16.64 Employee Rights

When matters prejudicial to the character, standing, or efficiency of any Service personnel arise during the course of a Board of Inquiry, the Board shall make known to the employee's responsible line official the precise nature of such matters. Line officials shall then take steps to apprise the employee of his right to be heard and to submit evidence to refute the allegations.

1(16)16.7 REPORT OF BOARD

(1) No index is necessary for the ordinary short report. However, in a long report consisting of many exhibits an index will be prepared giving a list of witnesses, page number of pertinent statements given or made to the Board brief description of each exhibit and page number where presented.

(2) Actions of the Board, including the determination and recommendations required, shall be decided by majority vote of the Board members. Any member of the Board may file a separate report in order to express reasons for determinations which differ from those of a majority of the Board.

(3) Board of Inquiry reports, with recommendations and exhibits, will be prepared in sufficient copies to meet the following minimum distribution requirements:

(a) Regional Board—The original for the Regional Commissioner to be filed with Board of Inquiry records; two copies for the Chief, Protective Programs Branch, A:FM:PR; and one copy for the Assistant Regional Commissioner of the activity of the employee involved.

(b) National Office Board—The original for the Assistant Commissioner (Administration) to be filed with Board of Inquiry records; two copies for the Chief, Protective Programs Branch, A:FM:PR; and one copy for

1(16)16.7 REPORT OF BOARD - Cont.)

the Assistant Commissioner of the activity of the employee if ved.

(4) The necessary follow-up on recommendations made by the Board shall be taken by the Regional or National Office Safety Officers to ensure appropriate recommendations are put into practice. The Service Safety Management Officer will coordinate implementation of those recommendations which are of Service-wide significance.

EXHIBIT 1(16)10-1

Report Symbol No.A: FM-22

REPORT OF PHYSICAL HAZARDS IN OFFICES

DATE REPORT SUBMITTED: March 23, 1966

This form was developed for use by persons in supervisory capacity for determining the physical conditions in their work area which inherently, or through application or use, present accident hazards to personnel.

TO: Facilities Management Division
A:FM:PR

FROM: (Name, Section, Room No. Telephone No.)
John Jones, Safety Inspector
Room 3118, Ext. 2700

PART I - IDENTIFICATION DATA (Area Covered by Survey)

(Check which)
[X] NATIONAL OFFICE
[ ] REGIONAL OFFICE (Specify)

IF NATIONAL OFFICE (Specify Division): Fiscal Management Division
IF REGIONAL OFFICE (Specify Office in Region):

BUILDING: Internal Revenue
ROOMS: 3103-3127, 3102-3130
CITY: Washington, D. C. 20224

PART II - INSPECTION DATA

INSTRUCTIONS

Listed in Column (a) below are "Items and Conditions" that may in some instances endanger the physical well-being of employees. A few examples will illustrate. Protruding nails or screws may cause tripping hazards or puncture wounds; improper illumination such as shadows, glare, lights out, etc., may cause tripping and falling hazards; improperly stacked materials may fall and injure someone; improperly located extension cords and telephone wires may cause falls from tripping; open file or desk drawers may cause someone to bark shins or fall; if glass-top desks are permitted, cracked, checked or broken glass may cause serious lacerations; loose or excessively vibrating fans may fall and injure persons nearby; blocked aisles will hamper emergency exits; poorly arranged desks may cause undue crowding and hamper egress. For each item or condition that is applicable to the working area, indicate whether or not a hazard exists by checking "Yes" Column (b) or "No" Column (c). For each existing hazard (Items and Conditions checked "Yes"), pertinent "Comments and Recommendations" for remedial action will be made in Column (d). Items and conditions peculiar to the working area, that are not listed in Column (a), should be added in the space provided in Section F.

ITEM NO.	ITEMS AND CONDITIONS (a)	HAZARD EXISTS YES (b)	HAZARD EXISTS NO (c)	LOCATION, COMMENTS, AND RECOMMENDATIONS CONCERNING HAZARDOUS CONDITIONS (d)
	SECTION A - TRIPPING, SLIPPING AND FALLING			
1	FLOORS AND STAIRWAYS WATER, OIL, SOAP, ETC.		X	
2	HIGHLY POLISHED SURFACES		X	
3	TORN OR LOOSE COVERING	X		Torn rugs Room 3118 need repair
4	ROUGH OR SPLINTERED SURFACES		X	
5	PROTRUDING NAILS, SCREWS, ETC.		X	
6	HANDRAILS		X	
7	ILLUMINATION		X	
8	TREADS		X	
9	PROJECTING OUTLETS		X	
10	EXTENSION CORDS	X		Provide outlet in Rm. 3111 to eliminate
11	LADDER		X	cord across aisle.
12	WASTEBASKETS		X	
	SECTION B - TIPPING AND FALLING OBJECTS			
13	FILE CABINETS		X	
14	LOCKER SHELVES		X	
15	CEILING AND LIGHTING FIXTURES		X	
16	PLASTER	X		Cracked and falling in Rm. 3123
17	STACKED MATERIALS		X	
	SECTION C - COLLISIONS AND OBSTRUCTIONS			
18	AISLE CONDITIONS		X	
19	VALVES AND PIPES		X	
20	PENCIL SHARPENERS		X	
21	DESK AND FILE CABINET DRAWERS		X	
22	~~DOOR CLOSERS~~ Door Stop	X		Door stop was removed Rm. 3120 and never replaced.

(OVER)

U. S. TREASURY DEPARTMENT - INTERNAL REVENUE SERVICE FORM 1775 (3-54)

EXHIBIT 1(16)10-1—*Cont.*

PART II - INSPECTION DATA (Continued)

ITEM NO.	ITEMS AND CONDITIONS (a)	HAZARD EXISTS YES (b)	HAZARD EXISTS NO (c)	LOCATION, COMMENTS, AND RECOMMENDATIONS CONCERNING HAZARDOUS CONDITIONS (d)
	SECTION D - EQUIPMENT			
	OFFICE MACHINES			
23	GUARDING OF MOVING PARTS		X	
24	WIRING, SWITCHES OR CORDS		X	
25	PLUMBING FIXTURES		X	
26	FURNITURE		X	
27	DOLLIES		X	
28	MAIL CARTS		X	
29	GLASS DESK TOPS		X	
30	WASTE PAPER BASKETS		X	
31	EDGES OF METAL EQUIPMENT		X	
32	ELECTRIC FANS		X	
33	INSECURELY PLACED EQUIPMENT	X		Door check hanging loose Rm. 3119
	SECTION E - FIRE AND PANIC			
34	DISPOSAL OF PAPER AND WASTE		X	
35	STORAGE FACILITIES FOR FLAMMABLES		X	
36	DISPOSAL FACILITIES FOR SMOKERS		X	
37	FIRE ESCAPES AND EXITS ADEQUACY		X	
38	AISLES LEADING TO		X	
39	ACCESS TO		X	
40	SIGNS AND LIGHTS		X	
41	FIRE PROTECTIVE EQUIPMENT ACCESSIBILITY		X	
42	CONDITION		X	
	SECTION F - OTHER			
43	WORKING SPACE SANITARY CONDITIONS		X	
44	POISONOUS OR OBNOXIOUS FUMES		X	
45	ARRANGEMENT OF DESKS, TABLES, ETC.		X	
46	AISLE WIDTH		X	
47	HOUSEKEEPING		X	
48	VENTILATION		X	
49	STORAGE OF POISONOUS SUBSTANCES		X	
50	STEAM PIPES		X	
51	Broken window pane	X		Room 3108
52				
53				

OTHER OBSERVATIONS

I believe the hazardous condition of door stops in Room 3119 and 3120 to be the most serious. They should be corrected at once.

SAFETY INSPECTOR'S SIGNATURE: John Jones

FORM 1775 (3-54)

EXHIBIT 1(16)10–2

ACCIDENT REPORTING FORMS AND INVESTIGATIONS

Circumstances	Motor vehicle accident	Other than motor vehicle accident	Federal Employees Compensation Act	Investigation required	
				Informal	Formal
Disabling or non-disabling injury or death to Service employee on duty.	SF-91[1] SF-91A[2] SF-92[3] OF-26[1]	SF-92[3]	See IRM 1920, Employees' Compensation for Injuries	All cases[7]	
Any injury or alleged injury to to non-Federal person.	SF-91[1] OF-26[1]	SF-92a[4]			All cases
Property damage only:					
1. To Service property	SF-91[1] SF-91A[2] OF-26[1]			All cases except→	When damage is $250 or more and there is a reasonable possibility of a claim against a non-Federal person(s).
		SF-92[3]		If damage is more than $25 but less than $250 and there is a reasonable possibility of a claim against a non-Federal person(s).[5]	If damage is $250 or more and there is a reasonable possibility of a claim against a non-Federal person(s).[5]
(a) Fire		SF-92[3]		All cases	
2. To non-Federal property	SF-91[1] SF-91A[2] OF-26[1]	SF-92a[4]		If damage is less than $250	If damage is $250 or more[6]

[1] Form to be completed by employee involved.

[2] Form to be completed by person making investigation and immediate supervisor of employee. It should also be reviewed and signed or initialed by the Regional Safety Officer. If no investigating officer is appointed, Item 5 on the form should be marked "Not Applicable." This form is not required if formal investigation is conducted.

[3] Form to be completed by supervisor.

[4] Form to be completed by appropriate official and made part of formal investigation when appropriate.

[5] If property damage caused by Service employee, report should be made in accordance with provisions of IRM 1(14)40 and Board of Survey will recommend to Survey Officer the fixing of responsibility.

[6] If accident involves solely damage to a car owned by an employee and being operated on a reimbursable basis in the conduct of official business, only an informal investigation is required regardless of amount of damage.

[7] Formal investigation may be required under IRM 1(16)14.33:(1)(d) if determined necessary for Board of Inquiry action.

Titles of Forms:

Standard Form 91 —Operator's Report of Motor-Vehicle Accident
Standard Form 91A—Investigation Report of Motor Vehicle Accident
Standard Form 92 —Supervisor's Report of Accident
Standard Form 92a —Report of Accident Other than Motor Vehicle
Standard Form 26 —Data Bearing Upon Scope of Employment of Motor Vehicle Operator.

OPERATOR'S REPORT OF MOTOR-VEHICLE ACCIDENT

THIS FORM TO BE FILLED OUT BY THE GOVERNMENT OPERATOR AT THE TIME AND AT THE SCENE OF THE ACCIDENT, INSOFAR AS POSSIBLE.

DEPARTMENT OR AGENCY: Internal Revenue Service

NAME AND LOCATION OF ORGANIZATION TO WHICH YOU ARE ASSIGNED: A&TT Division - Dallas Regional Office

I. OPERATOR

PLEASE PRINT FULL NAME	Thomas V. Landvoight
RANK, RATING, OR TITLE	Inves.
SERVICE NUMBER OR POSITION TITLE	
OPERATOR'S STATE PERMIT NUMBER	Tex. - 2681342
HOME ADDRESS (Street, city, State)	4203 River Road, Dallas, Texas
TELEPHONE (Home)	DI. 3-2410

II. TIME AND PLACE

DATE AND DAY OF WEEK OF ACCIDENT	Monday, April 4, 1966
HOUR (A.M. or P.M.)	8:45 a.m.
PLACE OF ACCIDENT	Westside Drive and Lemon Avenue
FROM WHAT PLACE TO WHAT PLACE WERE YOU BOUND	From office to Rockwall, Texas
FOR WHAT PURPOSE	To interview confidential inft.

III. YOUR VEHICLE

MAKE	Ford (Gov't-owned)
TYPE	1965 Sedan
REGISTRATION NUMBER OR OTHER IDENTIFICATION	ID 2341
PARTS OF VEHICLE DAMAGED (Describe)	Right front fender, bumper, grill, radiator
ESTIMATED AMOUNT OF DAMAGE	$ 400.00

IV. OTHER VEHICLE AND PROPERTY

MAKE	Plymouth
TYPE	4 dr. Sedan
YEAR	1965
OPERATOR'S STATE PERMIT NUMBER	Tex. - 1-346298
VEHICLE LICENSE NUMBER	HV 6438
OPERATED BY (Name)	Earl Torgeson
VEHICLE OWNED BY	Earl Torgeson
OPERATOR'S HOME ADDRESS (Street, city, State)	923 Elm Street, Dallas
OWNER'S ADDRESS (Street, city, State)	
PARTS OF VEHICLE DAMAGED (Describe)	Left rear fender, left rear wheel and left rear door
ESTIMATED AMOUNT OF DAMAGE	$ 250.00
OTHER VEHICLE OR PROPERTY DAMAGED (Describe)	None

V. OPERATOR'S STATEMENT OF ACCIDENT

TELL IN YOUR OWN WAY HOW ACCIDENT HAPPENED

On Monday, April 4, 1966, I left the office at about 8:30 a.m. in Gov't. car I.D. 2341 to proceed to Rockwall, Texas, on official business. I was going north on Lemon Avenue at a speed of 20 - 25 MPH. As I approached Westside Drive, I saw a car stopped at the stop sign and I did not slow up. When I was almost at the intersection this car suddenly pulled out in front of me and before I could stop the right front of my car struck the left rear of the other car, which was owned and operated by Mr. Torgeson. The accident was investigated by officer S. T. Brown of the Dallas PD, but no charges were preferred against either driver.

WAS VEHICLE EQUIPPED WITH SEAT BELTS? ☒ YES ☐ NO

IF YES, WERE THEY IN USE AT TIME OF ACCIDENT? ☒ YES ☐ NO

The door flew open and I would probably have fallen out if I had not been using my seat belt. It also kept me from being bounced around inside the car.

SIGNATURE OF OPERATOR: Thomas V. Landvoight

DATE: April 14, 1966

HAVE YOU ANSWERED ALL QUESTIONS AS COMPLETELY AS POSSIBLE?

U.S. GOVERNMENT PRINTING OFFICE : 1963 0-700-354 4
Standard Form 91
Revised April 1963
(91-105)
BUREAU OF THE BUDGET Circular A-6 (Rev.)

EXHIBIT 1(16)10-3—*Cont.*

7. PERSONS INJURED

NAMES	HOME ADDRESSES
Earl Torgeson	923 Elm Street, Dallas

8. OCCUPANTS IN YOUR VEHICLE

NAMES	HOME ADDRESSES
None	

9. OCCUPANTS IN OTHER VEHICLE

NAMES	HOME ADDRESSES
Earl Torgeson	923 Elm Street, Dallas

10. WITNESSES AND POLICE

NAMES	HOME ADDRESSES
Mildred Collins	4315 Westside Drive Dallas, Texas

POLICE OFFICER	BADGE NO.	PRECINCT OR HQS.
Officer S. T. Brown	346	Dallas PD

11. THE ACCIDENT

	YOUR VEHICLE	OTHER VEHICLE
DIRECTION OF TRAVEL	North	West
SIDE OF STREET OR HIGHWAY	East side of Lemon Avenue	North side of Westside Dr.
APPROXIMATE SPEED (Miles per hour)	20 - 25 MPH	10 MPH

CONDITION OF ROADWAY (Wet or dry, icy, etc.): Dry

WEATHER (Clear, foggy, rain, snow, etc.): Clear

TYPE OF ROADWAY (Concrete, macadam, etc.): Macadam

OTHER INFORMATION (Indicate stop signs, traffic lights, obstructions, etc.): Torgeson pulled out from the stop sign in front of Gov't car.

12. EVENTS AFTER ACCIDENT

IF MEDICAL AID RENDERED, STATE BY WHOM: None

WHERE WAS INJURED TAKEN:

CONDITION OF OTHER DRIVER: Had bruised left shoulder and complained about headache but refused medical aid.

IF OTHER DRIVER OR PERSONS INJURED MADE STATEMENTS AS TO CAUSE OF ACCIDENT AND EXTENT OF PERSONAL OR PROPERTY DAMAGE, RELATE CONVERSATION AND NAMES AND ADDRESSES OF OTHERS HEARING SUCH STATEMENTS: Mr. Torgeson said in my presence after the accident that he did not see me proceeding up Lemon Avenue when he pulled out from the stop sign. He also said that since he was well into the intersection he felt the Government should pay the damage to his car.

13. OTHER VEHICLE AND PROPERTY

MAKE	TYPE	YEAR

OPERATOR'S STATE PERMIT NUMBER	VEHICLE LICENSE NUMBER

OPERATED BY	OWNED BY

ADDRESS	OWNER'S ADDRESS

PARTS OF VEHICLE DAMAGED (Describe):

OTHER PROPERTY DAMAGED (Describe):

14. INDICATE BY DIAGRAM BELOW WHAT HAPPENED

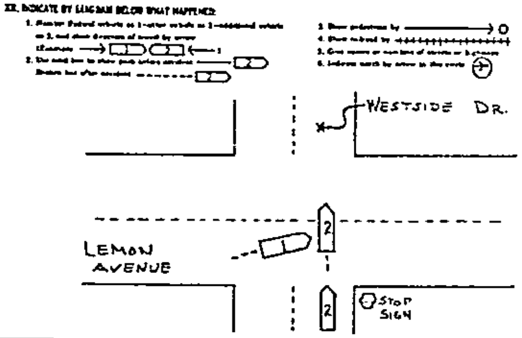


EXHIBIT 1(16)10-4

OPTIONAL FORM 26
MAY 1962
GSA CIRCULAR
NO. 287 5026-101

DATA BEARING UPON SCOPE OF EMPLOYMENT OF MOTOR VEHICLE OPERATOR

INSTRUCTIONS. This form is to be filled out by the operator at the time and at the scene of the accident, insofar as possible, and attached to the completed Standard Form 91, Operator's Report of Motor Vehicle Accident.

OPERATOR'S

1. NAME: Thomas V. Landvoight

2. TITLE AND JOB CLASSIFICATION: Special Investigator, A&TT - GS 11

3. AGENCY NAME AND BEGINNING DATE OF DUTY: Alcohol and Tobacco Tax Division, Internal Revenue Service, Southwest Regional Office — Jan. 4, 1958

4. ESTABLISHED WORKING HOURS: FROM 8:15 A.M. / P.M. TO 4:45 P.M.

5. IMMEDIATE SUPERVISOR (Name): Harvin P. Jones

6. SUPERVISOR'S TITLE: Supervisor in Charge

VEHICLE OWNERSHIP

7. VEHICLE IS (Check one only): [X] a. GOVERNMENT-OWNED [ ] b. NOT GOVERNMENT-OWNED

ID 2341 (Identification No.) _____ (License No.)

8. WAS THIS VEHICLE ASSIGNED TO OPERATOR BY A GSA MOTOR POOL? [ ] YES [X] NO

If "YES" give details and location of the GSA Motor Pool.

If "NO" what activity assigned the vehicle? Alcohol and Tobacco Tax Division, Internal Revenue Service, Southwest Regional Office

9. IF BLOCK 7a. IS CHECKED, IS TITLE TO VEHICLE REGISTERED IN OPERATOR'S NAME? [ ] YES [ ] NO

If "NO" give details as to how vehicle is titled.

10. HOW DID OPERATOR RECEIVE AUTHORITY FOR USE OF VEHICLE? [ ] ORALLY [X] WRITTEN AUTHORITY

Give details: Assigned by Division Director to use in Enforcement activities

DETAILS OF TRIP DURING WHICH ACCIDENT OCCURRED

11. ORIGIN: Southwest IRS Regional Office, 1114 Commerce St., Dallas, Texas

12. DESTINATION: Rockwall, Texas

13. EXACT PURPOSE OF TRIP: To interview confidential informant

14. DATE AND TIME TRIP BEGAN: Apr 4 1966 - 8:30a.m.

15. DATE AND TIME OF ACCIDENT: Apr 4 1966 - 8:45 a.m.

16. HOW DID OPERATOR RECEIVE AUTHORITY FOR TRIP? [ ] ORALLY [X] WRITTEN AUTHORITY

Give details: By memorandum from supervisor in charge assigning me to this case.

17. WAS THERE ANY DEVIATION FROM DIRECT ROUTE? [ ] YES [X] NO

If "YES" explain in detail:

18. WAS TRIP MADE WITHIN ESTABLISHED WORKING HOURS? [X] YES [ ] NO

If "NO" explain.

19. DID OPERATOR WHILE ENROUTE ENGAGE IN ANY ACTIVITY OTHER THAN THAT FOR WHICH THIS TRIP WAS AUTHORIZED? [ ] YES [X] NO

If "YES" explain:

20. STATE BELOW FULL DETAILS OF THE AUTHORITY FOR, THE NATURE OF, AND CIRCUMSTANCES SURROUNDING THE TRIP NOT OTHERWISE COVERED ABOVE OR ON THE ACCOMPANYING SF-91.

All circumstances covered above or on SF 91.

(Continue on reverse)

OPERATOR'S	SIGNATURE: Thomas V Landvoight — The information contained herein is true and correct to the best of my knowledge and belief.	DATE: April 4 1966
SUPERVISOR'S	SIGNATURE: Harvin P. Jones	DATE: April 6. 1966

U.S. GOVERNMENT PRINTING OFFICE : 1962 O—641058

STANDARD FORM 91A (REV. JUNE 1962)

INVESTIGATION REPORT OF MOTOR VEHICLE ACCIDENT

Internal Revenue Service

1. A&TT Division - Dallas Regional Office

2. GENERAL LOCATION, DATE, DAY AND HOUR OF ACCIDENT

Dallas

Texas

Date: 4-4-66 | Day of week: Monday | Hour: 8:45 a.m.

3. EXACT LOCATION OF ACCIDENT

Accident occurred on: Lemon Avenue

At intersection with: Westside Drive

4. FEDERAL VEHICLE (Fed.)

Year	Make	Body type
1965	Ford	4D Sedan

Registration no.: 346298 | Kind of cargo: None | Number of passengers: 1

Parts of vehicle damaged and nature of damage: Right fr. fender bumper grill, radiator, bent and scraped

Going (direction): North | On: Lemon Avenue

Distance danger noticed: 20 ft. | Estimated speed when in danger: 20 | Estimated speed at impact: 12

Lawful speed limit: 30 | Distance traveled after impact: 2 - 3

Maximum safe speed: 30 | Operator's permit: [ ] Federal [X] State

Type of permit: [ ] Chauffeur [ ] Truck driver [X] Operator

Limitation of permit: None

Driver's name: Thomas V. Landvoight | M | 34

Address: 4203 River Road, Dallas, Texas

Hours on duty: 1/2 | Years driving experience: 16 | Experience this type vehicle: 16

5. OTHER VEHICLE (Z)

Year	Make	Body type
1965	Plymouth	4D Sedan

Registration no.: 264610 | Kind of cargo: None | Number of passengers: 1

Parts of vehicle damaged and nature of damage: Left rear fender, left rear wheel and left rear door bent.

Going (direction): West | On: Westside Drive

Distance danger noticed: 10 appr. | Estimated speed when in danger: 10 | Estimated speed at impact: 10

Lawful speed limit: 30 | Distance traveled after impact: 2 - 3

Maximum safe speed: 10 mph | Operator's permit: TEX. 1346298

Type of permit: [ ] Chauffeur [ ] Truck driver [X] Operator

Limitation of permit: None

Driver's name: Earl Torgeson | M | 41

Address: 923 Elm Street, Dallas, Texas

Name and address of owner: Same

6. WITNESSES

Name: Mildred Collins | Phone no.: DI 23492

Address: 4115 Westside Drive, Dallas

Location of witness at time of accident: On Lemon Ave. - off Westside Dr.

7. KILLED OR INJURED

Name: Earl Torgeson | M | 41

Address: 923 Elm Street, Dallas, Texas

[X] Injured

First aid given by: None

Taken to: Refused Medical Aid

8. PEDESTRIAN

Not applicable for this accident

9. DAMAGE TO PROPERTY OTHER THAN MOTOR VEHICLES OR CARGO

NONE

10. KIND OF LOCALITY: [X] Shopping and business

11. LIGHT: [X] Daylight

12. WEATHER: [X] Clear

PROMULGATED BY BUREAU OF THE BUDGET CIRCULAR A-4 (REV.) NOTE: Not required for this accident. See Exhibit 1(16)10-3.

1116110-5 MT 1116100-10 (10-17-66) IR Manual
OFFICIAL USE ONLY

19. CONDITION OF DRIVER AND PEDESTRIAN

FD	P	NO		FD	P	
X	X		14. HAD NOT BEEN DRINKING			1. PHYSICAL DEFECT
			15. HAD BEEN DRINKING, # BO.			2. OTHER PHYSICAL DEFECT (EYE, LIMB, PARALYSIS, ETC.)
			8. ABILITY IMPAIRED			3. ILLness (EPILEPSY, ETC.
			9. ABILITY NOT IMPAIRED			4. EMOTIONALLY UPSET
			10. NOT KNOWN WHETHER IMPAIRED	X	X	5. APPARENTLY NORMAL

20. VISION OBSCURED BY

FD	P		FD	P	
		1. RAIN, SNOW, DIRT, OR WINDSHIELD			7. EMBANKMENT
		2. CRACKED WINDSHIELD			8. SHRUBBERY
		3. DIRTY WINDSHIELD, WINDOW			9. PARKED VEHICLE
		4. WINDSHIELD WIPER DOWN OR GLASS			10. MOVING VEHICLE
		5. TREES, CROPS, ETC.			11. OTHER (Specify)
		6. RAILING			

21. ROAD CONDITION

X	1. DRY		6. LOOSE MATERIAL ON SURFACE
	2. WET		7. HOLES, DEEP RUTS
	3. MUDDY		8. DEFECTIVE SHOULDERS
	4. SNOWY	X	9. NO DEFECTS
	5. ICY		10. OTHER DEFECTS (Specify)

WAS ROAD UNDER CONSTRUCTION OR REPAIR? ☐ YES ☒ NO

22. ROAD CHARACTER

X	1. STRAIGHT
	2. SHARP CURVE OR TURN
	3. OTHER CURVES
	4. LEVEL
	5. UP HILL
	6. HILL CREST
	7. DOWN HILL

23. ROAD SURFACE

	1. CONCRETE
	2. BRICK
X	3. BLACK TOP
	4. GRAVEL, SAND, OR DIRT—OILED
	5. GRAVEL, SAND, OR DIRT—UNOILED
	6. OTHER (Specify)

24. CONDITION OF VEHICLE

FD	P		FD	P	
		1. DEFECTIVE BRAKES			8. TIRE BLOW OUT
		2. ONE HEADLIGHT OUT			9. DEFECTIVE STEERING MECHANISM
		3. BOTH HEADLIGHTS OUT	X	X	10. NO LAMPS AND/OR REFLECTORS
		4. TAILLIGHT OUT OR OBSCURED			11. OTHER DEFECTS (Specify)
		5. [illegible]			
		6. SIGNAL LIGHTS DEFECTIVE			
		7. OTHER LIGHTS OR REFLECTORS DEFECTIVE			

25. TRAFFIC CONTROL

Complied with	Not complied with		
			1. R. R. CROSSING GATES
			2. R. R. AUTOMATIC SIGNAL
			3. OFFICER OR WATCHMAN
			4. STOP AND GO LIGHT
X		X	5. STOP SIGN
			6. WARNING SIGN OR SIGNAL
			7. FLAGS OR FLARES
			8. NO CONTROL PRESENT

26. VIOLATIONS

FD	P		FD	P	
		1. EXCEEDING LAWFUL SPEED			12. TURN FROM WRONG LANE
		2. DID NOT HAVE RIGHT-OF-WAY	X		13. DISREGARDED STOP SIGN
		3. ON WRONG SIDE OF ROAD			14. DISREGARDED WARNING SIGN OR SIGNAL
		4. IMPROPER TURN (WIDE, CUT)			15. DISREGARDED STOP AND GO LIGHT
		5. PASSING STANDING SCHOOL BUS			16. DISREGARDED POLICE OFFICER
		6. PASSING ON HILL			17. IMPROPERLY STANDING OR PARKED A MOTOR VEHICLE
		7. PASSING ON CURVE			18. IMPROPER PASSING
		8. CUTTING IN			19. NO IMPROPER DRIVING ALLEGED
		9. FOLLOWING TOO CLOSELY			20. OTHER IMPROPER ACTION (Specify)
		10. FAILURE TO SIGNAL OR IMPROPER SIGNAL			
		11. WIDE RIGHT TURN			
		12. CUT CORNER ON LEFT TURN			

27. ROAD WIDTHS AND LANES

WIDTH OF ROAD OR PAVEMENT	NUMBER OF LANES
35 feet (Both Sts.)	4
WERE LANES MARKED?	WERE LANES SEPARATED?
line on Lemon	No
BY WHAT?	
No marks on Westside	

28. POLICE ACTION, IF ANY

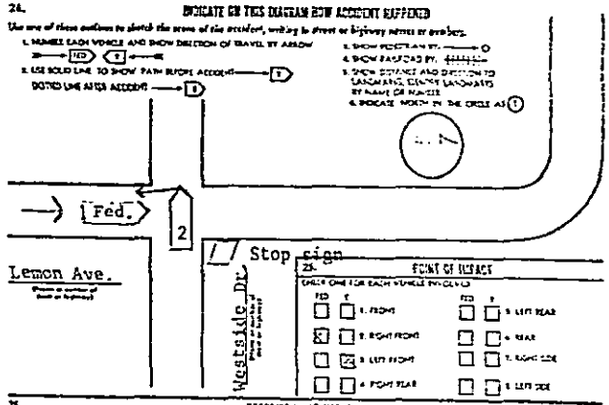
CHARGE	
None	
NAME OF PERSON CHARGED	
NAME, BADGE NUMBER, AND DEPT. OF POLICE OFFICER	

19—67616-1

29. INDICATE ON THIS DIAGRAM HOW ACCIDENT HAPPENED

Use one of these methods to sketch the scene of the accident, using to street or highway names or numbers.

1. NUMBER EACH VEHICLE AND SHOW DIRECTION OF TRAVEL BY ARROW
2. USE SOLID LINE TO SHOW PATH BEFORE ACCIDENT
3. SHOW PEDESTRIAN BY
4. SHOW PARKED BY
5. SHOW DISTANCE AND DIRECTION TO LANDMARKS, ESTABLISHMENTS BY NAME OR NUMBER
6. INDICATE NORTH IN THE CIRCLE AS



25. POINT OF IMPACT

CHECK ONE FOR EACH VEHICLE INVOLVED

FD	P		FD	P	
		1. FRONT			5. LEFT REAR
X		2. RIGHT FRONT			6. REAR
	X	3. LEFT FRONT			7. RIGHT SIDE
		4. FRONT REAR			8. LEFT SIDE

26. DESCRIBE WHAT HAPPENED

AUTO NO VEHICLES BY "FED" AND "2"

Fed. vehicle was being driven by Investigator Landvoight north on Lemon Avenue at a legal and reasonable rate of speed when vehicle "2" suddenly pulled out from a stop sign right in front of the Fed. car, which could not be stopped in time to avoid the collision.

27. SIGNATURE OF INVESTIGATOR: Tony Thomas | TITLE: Special Investigator | DATE: 4/5/66

28. STATEMENT OF REVIEWING OFFICIAL

WAS THE OFFICER ACTING WITHIN THE SCOPE OF HIS EMPLOYMENT? ☒ YES ☐ NO

Assigned by me to go to Rockwall

Apparently other driver pulled out from stop sign without looking

Proper attention to driving by both drivers.

Employee was cautioned to always drive defensively. He is also scheduled to see the film, "Take Time to Think"

SIGNATURE OF REVIEWING OFFICIAL: Wirvin P. James | TITLE: Supervisor in Charge | DATE: 4-6-66

19—67616-2 U. S. GOVERNMENT PRINTING OFFICE

EXHIBIT 1 (10-5-66)

SAFETY PROGRAM

EXHIBIT 1(16)10-6

Standard Form 92a
PROMULGATED JUNE 1960 BY BUREAU OF THE BUDGET
CIRCULAR A-9 (REV.)

REPORT OF ACCIDENT OTHER THAN MOTOR VEHICLE

DEPARTMENT OR AGENCY: Internal Revenue Service

ACCIDENT OCCURRED IN— GOVERNMENT OPERATION: X; CONTRACTOR OPERATION:

NAME AND ADDRESS OF LOCAL REPORTING ORGANIZATION: Boston District Office - 174 Ipswich Street, Boston, Mass.

TIME AND PLACE OF ACCIDENT

DATE OF ACCIDENT	TIME	EXACT LOCATION OF ACCIDENT
3-23-66	2:30 p.m.	Room 324

PERSON OR PERSONS INJURED

NAMES	ADDRESSES
Mrs. Ada Gould	1308 Rountree Drive
	Boston, Massachusetts

NATURE AND EXTENT OF INJURIES: Broken left arm, bruises and contusions.

PROPERTY DAMAGED

NAME OF OWNER	ADDRESS OF OWNER
Mrs. Ada Gould	Same as above

DESCRIPTION AND LOCATION OF PROPERTY: When Mrs. Gould fell and was injured, she also tore her dress and her stockings.

NATURE AND EXTENT OF DAMAGE: Both dress and stockings badly torn - irreparable.

FULL DESCRIPTION OF ACCIDENT (Use Reverse Side, If Necessary)

Mrs. Gould had called at the office to obtain assistance in connection with completing a form required by Internal Revenue Service. In walking across the floor in Rm. 324 she stumbled over a raised electrical outlet. It had been installed for the operation of an office machine which had been moved. The outlet was overlooked and had not been removed. In falling she tried to catch herself with her left arm and the weight caused a fracture.

WITNESSES

IMPORTANT.—Be particular to secure the names and addresses of witnesses, bystanders, or persons in the immediate vicinity who may have seen the accident or heard any statement made by the person injured.

NAMES	ADDRESSES
George O. Standish	District Office, Boston
Melvin Hardesty	32 Dodge Street, Holyoke, Mass.

DATE OF THIS REPORT	TITLE OR POSITION	SIGNATURE OF PERSON EXECUTING THIS FORM
March 25, 1966	Collection Officer	George O. Standish

EXHIBIT 1(16)10–7

Standard Form 91
PROMULGATED PURSUANT TO
BUREAU OF THE BUDGET
CIRCULAR A-5 (REV.)

SUPERVISOR'S REPORT OF ACCIDENT

DO NOT USE FOR MOTOR VEHICLE OR AIRCRAFT ACCIDENT

(See Instructions on Back. Use Additional Sheets if Necessary)

DO NOT USE — CODE

Section I — REPORTING UNIT

1a. TO: *(Appropriate Headquarters)*
Chief, Facilities Management Branch

2. ACCIDENT OCCURRED IN: CONTINENTAL U.S.A. — X; OUTSIDE CONTINENTAL U.S.A. —

1b. FROM: *(Reporting Dept., etc., and location - Include town and State or foreign country)*
Internal Revenue Service, Office Audit Branch
300 E. 8th St., Somewhere, U.S.A.

Section II — WHEN, WHERE, HOW, AND WHY ACCIDENT OCCURRED AND CORRECTIVE ACTION

3. DATE OF ACCIDENT: 2-14-66
4. TIME: 3:15 p.m.
5. EXACT LOCATION OF ACCIDENT: Office Audit Branch Secretary's desk, 1st floor, Federal Bldg., Somewhere, U.S.A.

6. DESCRIPTION BY INJURED PERSON; IF PROPERTY DAMAGE ONLY, BY PERSONS MOST CLOSELY ASSOCIATED WITH ACCIDENT *(Tell the complete story of what happened; no signature required.)*

Employee tripped over typewriter cord extending beyond desk.

7. DESCRIPTION BY RESPONSIBLE SUPERVISOR—CIVILIAN OR MILITARY *(What led up to the accident, how did accident actually happen? Explain if anything was wrong with equipment, material, or layout and what was done wrong. Be specific.)*

Jane Doe was taking some work to Robert Roe when her feet became entangled in typewriter cord. She fell on both knees and left elbow. Typewriter cord was extended beyond desk.

8. WHAT ACTUALLY HAS BEEN DONE TO CORRECT CONDITIONS CAUSING THE ACCIDENT?

The cord has been taped temporarily to side of desk.

9. WHAT REMAINS TO BE DONE TO CORRECT SUCH CONDITIONS AND WHY?

The cord needs to be rerouted under the desk.

Section III — CONSEQUENCES AND RELATED DATA

16a. INJURY TO: *(Check one)*

REPORTING AGENCY			OTHER	
(1) MILITARY PERSONNEL	(2) CIVILIAN PERSONNEL X	(3) CONTRACTOR PERSONNEL	(4) OTHER FEDERAL AGENCY PERSONNEL	(5) NONFEDERAL PERSON

16b. PROBABLE DISABILITY *(Check one)*

(1) DEATH	(4) TEMPORARY TOTAL X	
(2) PERMANENT TOTAL	(5) TEMPORARY PARTIAL	
(3) PERMANENT PARTIAL	(6) FIRST AID	

16c. ESTIMATED DAMAGE TO PROPERTY OR EQUIPMENT *(Fill in one or more)*

(1) REPORTING AGENCY	$
(2) CONTRACTOR*	$
(3) OTHER FEDERAL AGENCY	$
(4) NONFEDERAL	$

* *Contractor of reporting agency*

11. DESCRIPTION OF PROPERTY OR EQUIPMENT DAMAGED

12. OWNERSHIP OF PROPERTY OR EQUIPMENT DAMAGED *(Name and home address)*

13. NAME AND HOME ADDRESS OF INJURED: Jane Doe 4518 Westfield St., Somewhere, USA
14. SEX: F
15. AGE: 41
16. BADGE OR SERVICE NO.

17. REGULAR OCCUPATION OF INJURED: Clerk-Typist
18. OFFICIAL ASSIGNMENT AT TIME OF ACCIDENT: Clerk-Typist

19. NATURE OF INJURY AND PART OF BODY INVOLVED: Swollen & bruised elbow and knees. Fluid in right knee.
20. DATE INJURED STOPPED WORK: 2-14-66
21. DATE INJURED RETURNED TO WORK: 2-21-66 (Est.)

Sec. IV — WITNESSES

22. NAMES AND ADDRESSES OF WITNESSES
Mrs. Roberta Albeit — District Office, Internal Revenue Somewhere, U.S.A.
Mr. Clyde LaVance — District Office, Internal Revenue Somewhere, U.S.A.

Sec. V — SUPERVISOR

23. DATE: 2-16-66
TITLE *(Civilian or military)*: Supervisor QA; Control Branch
SIGNATURE OF SUPERVISOR: John R. Randale

Section VI — REVIEW AND COMMENT

24. COMMENTS ON ADEQUACY OF CORRECTIVE ACTION TAKEN OR PLANNED, INCLUDING PROGRESS ON PENDING ACTIONS

Adequate corrective action has been taken by rerouting the cord under the desk so that it is no longer a hazard.

25. DATE: 2-23-66
TITLE *(Civilian or military)*: Chief, Office Audit Branch
SIGNATURE OF REVIEWING OFFICIAL: Perry J. Kitchens
Perry J. Kitchens

16—69981-8

EXHIBIT 1(16)10-7—*Cont.*

INSTRUCTIONS

SCOPE: Form applies to every accident, except motor vehicle and aircraft, arising out of the operation of a Federal Department or Establishment which results in injury to a person, or damage to property.

This form may be used similarly for operations performed by contractors under the jurisdiction of the reporting department, item 1b. It is not a substitute for any report to the Bureau of Employees' Compensation, but the reverse side of Form C. A. 1 of that Bureau should hereafter not be used.

PREPARATION: Answers must be given to all items on the form except as noted below: Accidents resulting in injury only, require answers to all items except 10c, 11, and 12; accidents resulting in property damage only, require answers to all items except 10a, 10b, and 13 through 21 inclusive; accidents resulting in injury and property damage require answers to all items. If a single accident involves injury to more than one person or damage to the property of more than one owner, a separate Form 92 is to be filled out for each injured person or each owner of damaged property.

SECTION I

Item 2. GOVERNMENT OPERATION.—Work performed by Government forces.

CONTRACTOR OPERATION.—Operation performed by a contractor's forces under jurisdiction of the reporting department named in item 1b.

SECTION II

Item 3. Date of accident.

Item 4. Hour of day or military time.

Item 5. Building or other exact location. Include town and State or foreign country.

Items 6, 7. Items must provide all possible information on what happened and a basis for answering items 8 and 9.

SECTION III

Item 10a. Injury to—Self-explanatory.

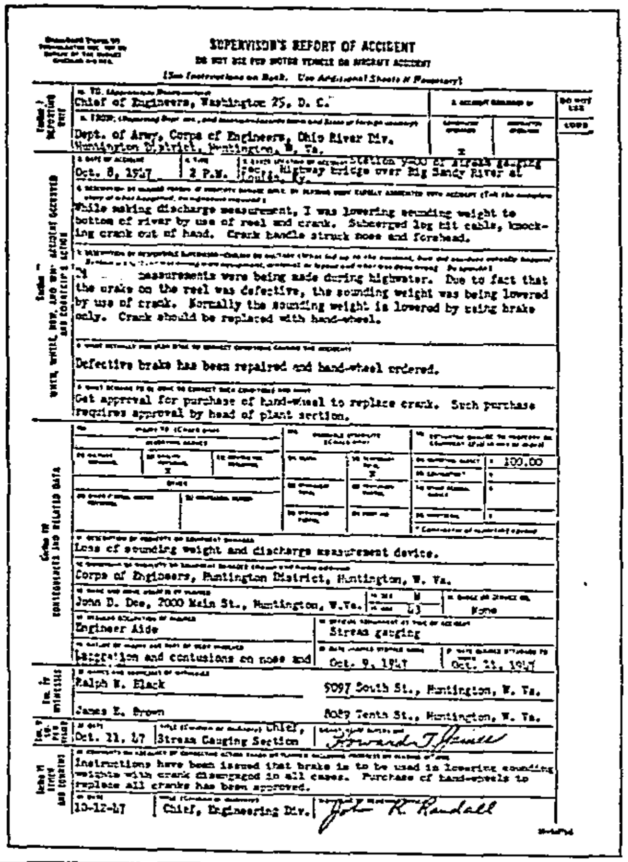
REPORTING AGENCY.—Department or establishment indicated in item 1b.

Item 10b. (1) DEATH.—Self-explanatory.

(2) PERMANENT TOTAL. — An injury which permanently and totally incapacitates a person from following any gainful occupation.

(3) PERMANENT PARTIAL.—An injury which results in the loss of any member or part of a member of the body, or any permanent impairment of functions of the body or part thereof to any degree less than permanent total disability.

(4) TEMPORARY TOTAL.—An injury other than the above which renders the injured person unable to perform a regularly established job on any day or shift subsequent to the day of injury (*including Saturdays, Sundays, and days off*).



SUPERVISOR'S REPORT OF ACCIDENT

Chief of Engineers, Washington 25, D. C.

Dept. of Army, Corps of Engineers, Ohio River Div. Huntington District, Huntington, W. Va.

Oct. 8, 1947 | 2 P.M. | Station 9-00 of stream gaging sec., Highway bridge over Big Sandy River at Louisa, Ky.

While making discharge measurement, I was lowering sounding weight to bottom of river by use of reel and crank. Submerged log hit cable, knocking crank out of hand. Crank handle struck nose and forehead.

Measurements were being made during highwater. Due to fact that the brake on the reel was defective, the sounding weight was being lowered by use of crank. Normally the sounding weight is lowered by using brake only. Crank should be replaced with hand-wheel.

Defective brake has been repaired and hand-wheel ordered.

Get approval for purchase of hand-wheel to replace crank. Such purchase requires approval by head of plant section.

$ 100.00

Loss of sounding weight and discharge measurement device.

Corps of Engineers, Huntington District, Huntington, W. Va.

John D. Doe, 2000 Main St., Huntington, W.Va. | M | 43 | None

Engineer Aide | Stream gaging

Laceration and contusions on nose and | Oct. 9, 1947 | Oct. 21, 1947

Ralph W. Black — 5097 South St., Huntington, W. Va.

James E. Brown — 8089 Tenth St., Huntington, W. Va.

Oct. 21, 47 | Chief, Stream Gaging Section

Instructions have been issued that brake is to be used in lowering sounding weights with crank disengaged in all cases. Purchase of hand-wheels to replace all cranks has been approved.

10-12-47 | Chief, Engineering Div. | John R. Randall

SECTION III (Continued)

(5) TEMPORARY PARTIAL. — An injury which prevents the injured person from performing his own job on any day or shift subsequent to the day of injury, but does not prevent his performing another regularly established job.

(6) FIRST AID (*Medical Treatment Case*).—An injury which requires medical treatment only and does not result in loss of time.

Item 10c. Property or equipment includes material. Give closest estimate possible of damage; do not state "unknown," "undetermined." Each loss must be explained in item 11.

(1) REPORTING AGENCY.—Department or establishment indicated in item 1b.

Item 11. Include damage to material.

Item 18. Work or duty assignment by supervisor at time of accident.

Item 20. The date of the first day (*subsequent to the date shown in item 3*) when the injured commenced losing time.

Item 21. The day injured returned to work; report shall not be delayed beyond the end of calendar month for completion of this item.

SECTION IV

Item 22. Should be "eye witnesses" if available; if not, first persons hearing of accident from injured person or other sources.

SECTION V

Item 23. Supervisor responsible for the information in items 3-22, inclusive.

SECTION VI

Item 24. The designation of the reviewing official is the responsibility of the department or establishment but should be an operating official above the level of the supervisor indicated in item 23.

REMARKS:

USE ADDITIONAL PLAIN SHEETS OF PAPER IF NECESSARY

EXHIBIT 1(16)10-8

PLACE OF EMPLOYMENT—State in detail the place of employment. Example: If Government employee—Supervising Internal Revenue Agent, Audit Division, Internal Revenue Service, Chicago, Illinois. If non-Government employee—Accountant, Argo Laundry, 22 West LaSalle Street, Chicago, Illinois.

PLACE OF ACCIDENT AND DATE—Give exact description of place of accident and the hour and date.

INVESTIGATIVE OFFICER'S SKETCH—If an automobile accident, attach a sketch which shows in black the relative positions of the colliding vehicles or of the vehicle and pedestrian just before the collision. Show in red their relative positions just after the collision. Label the compass directions, streets, and every object detected and indicate measurements showing by dotted lines the course followed by each vehicle and add any explanatory statement that would aid in the understanding of the occurrence.

DUTY STATUS—If a Government employee is involved, determination should be made if he was engaged in the performance of official duty at time of accident. If not, or in doubt, give detailed statement of facts.

NATURE OF INJURY—State extent of personal injury. In such cases, it is important that medical testimony be secured as soon after the accident as possible as to the extent of the injuries.

MEDICAL ATTENTION—Give name and address of physician(s) who attended injured private individuals, time of attendance and name and address of hospital, if any.

REPORT OF DEATH—If accident resulted in death of private party give exact time, date, place, and immediate cause and in addition, names, relationship, and addresses of all persons known to be dependent in any degree upon the decedent at time of death. Include copy of death certificate.

PROPERTY DAMAGE—Photographs should be obtained, if deemed necessary and such is possible, showing the extent of the damage to Government or privately-owned vehicle(s) or property in addition to the estimated cost of repairs furnished by a reputable contractor after personal examination. If a non-Federal person is liable for damages to Government property, make a statement as to any action taken by responsible officials to effect a satisfactory settlement.

GOVERNMENT VEHICLE AND DRIVER—If Government vehicle is involved, give make, year, model, service number, name and age of driver, title, and station. State if there is any indication Government vehicle was not in proper operating condition or was not properly serviced.

PRIVATE VEHICLE, OWNER, AND DRIVER—If private vehicle is involved, give make, year, model, license number, name and address of owner, name, age and address of driver, and driver's license number.

PHYSICAL ELEMENTS PRESENT—State physical elements present such as condition of weather and light at time of accident or condition of flooring or stairways, roadways, etc., as appropriate. These data should be obtained from witnesses and local Weather Bureau. Whether traffic signals or streetcar loading platform at scene; if so, relationship to accident.

POLICE REPORT—If city, State, or other enforcement officials or guards reported on the accident, attach copy of report, including copies of police photographs related to the accident.

TRAFFIC REGULATIONS VIOLATED—Quote or attach copy of traffic regulations violated, if any.

WITNESSES—List witnesses and exhibit numbers of statements. All statements by witnesses should be set forth on SF's 94 (see Exhibit 1(16)10-9), if available; otherwise, in any practicable format.

EXHIBITS—Each statement or report of interview of a witness, as well as photographs and other documentary evidence, should be given an exhibit number and arranged in appropriate form. Signed statements should be obtained from all witnesses.

NARRATIVE STATEMENTS—Include any other pertinent facts not included in the report elsewhere. An investigative report shall not include opinions of the investigator as to the merits of or legal liability in the case, but if there is conflicting testimony, the investigator's opinion as to the credibility of the various witnesses should be given. Set forth any information which would be helpful in making a determination as to whether the accident was caused by willful misconduct by the person sustaining the injury or property damage; whether the parties involved were under the influence of liquor; whether there was negligence or contributory negligence by either party; and whether any unsafe actions or practices of violations of safety regulations may have contributed to the accident.

EXHIBIT 1(16)10-9

Standard Form 91
Revised June 1963
Promulgated
by Bureau of the Budget
Circular A-8 (Rev.)

STATEMENT OF WITNESS

(Use additional sheets if necessary)

1. DID YOU SEE THE ACCIDENT?	2. WHEN DID IT HAPPEN? (Time and date)	3. WHERE DID IT HAPPEN? (State location and city)
Yes	About 8:45 a.m. 4/4/66	Lemon Avenue and Westside Drive, Dallas, Texas

4. TELL IN YOUR OWN WAY HOW THE ACCIDENT HAPPENED

I was standing at the bus stop near Lemon Avenue and Westside Drive when I noticed a car coming up Lemon at what appeared to be a reasonable rate of speed. Just before the car got to Westside Drive a Plymouth which had been stopped at a stop sign pulled out and started to turn left. The car coming up Lemon could not stop in time and hit the Plymouth.

5. WHERE WERE YOU WHEN THE ACCIDENT OCCURRED?

Waiting at the bus stop on Lemon Avenue, opposite where Westside Drive comes into Lemon.

6. WAS ANYONE INJURED, AND IF SO, EXTENT OF INJURY IF KNOWN?

The driver of the plymouth was rubbing his left shoulder, but he said it was nothing serious.

7. DESCRIBE THE APPARENT DAMAGE TO PRIVATE PROPERTY

The rear end of one car was pretty well dented.

8. DESCRIBE THE APPARENT DAMAGE TO GOVERNMENT PROPERTY

The front end of the Ford was smashed in, particularly on the right side and the radiator was leaking.

9. IN TRAFFIC CASES STATE APPROXIMATE SPEED (Miles per hour)	(a) GOVERNMENT VEHICLE	(b) OTHER VEHICLE
	20 MPH	10 MPH

10. GIVE THE NAMES AND ADDRESSES OF ANY OTHER WITNESSES TO THE ACCIDENT

NAMES	ADDRESSES
I didn't notice any one else in the vicinity.	

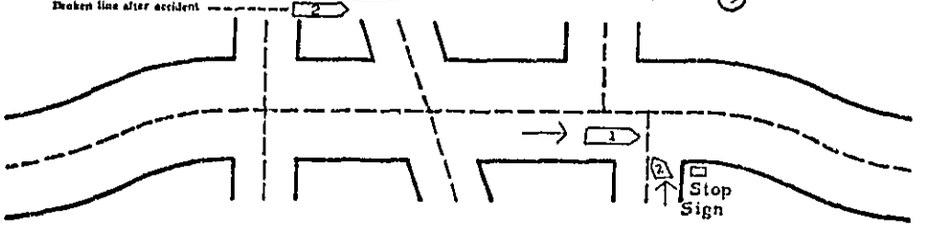
11. DATE	SIGNATURE
April 4, 1966	Mildred Collins

12. HOME ADDRESS	TELEPHONE NO.
4115 Westside Drive, Dallas, Texas	Di. 2-3492

13. BUSINESS ADDRESS	TELEPHONE NO.
1204 Mercantile Bank Building, Dallas, Texas	Ho. 1-6091

14. INDICATE ON THE DIAGRAM BELOW WHAT HAPPENED:

1. Number Federal vehicle as 1—other vehicle as 2—additional vehicle as 3, and show direction of travel by arrow (Example: → 1 2 ←)
2. Use solid line to show path before accident ——— 2 Broken line after accident - - - - - - 2
3. Show pedestrian by ——→ O
4. Show railroad by +++++++++++++++
5. Give names or numbers of streets or highways
6. Indicate north by arrow in this circle (→)



Mrs. Mildred Collins
4115 Westside Drive
Dallas, Texas

This office has been advised that you witnessed an accident which occurred at the intersection of Lemon Avenue and Westside Drive, Dallas, Texas, on April 4, 1966, at about 8:45 a.m. involving a Government-owned 1965 Ford sedan and a 1965 Plymouth sedan.

It will be helpful if you will answer, as fully as possible, the questions on the back of this letter.

Your courtesy in complying with this request will be appreciated. An addressed envelope, which requires no postage, is enclosed for your convenience in replying.

Sincerely yours,

H. L. Baker

Encl.

SAFETY PROGRAM

EXHIBIT 1(16)10–10

Standard Form 95
Revised February 1965
Bureau of the Budget
Circular A-5 (Rev.)

CLAIM FOR DAMAGE OR INJURY

(Use additional sheets if necessary)

95-104

SUBMIT TO: Commissioner
Internal Revenue Service
Washington, D. C. 20224

Use ink or typewriter. See reverse side for instructions and additional information required.

1. NAME OF CLAIMANT (Please print full name)	2. AGE	3. MARITAL STATUS	8. AMOUNT OF CLAIM	
Earl Torgeson				
4. ADDRESS OF CLAIMANT (Street, city, zone, State)			PROPERTY DAMAGE	$ 245.00
923 Elm Street, Dallas, Texas				
5. NAME AND ADDRESS OF SPOUSE, IF ANY			PERSONAL INJURY	$ 125.00
6. PLACE OF ACCIDENT (Give city or town and State; if outside city limits, indicate mileage or distance to nearest city or town)				
Dallas, Texas			TOTAL	$ 370.00
7. DATE AND DAY OF ACCIDENT	TIME (A.M. or P.M.)			
April 4, 1966	8:45 a.m.			

9. DESCRIPTION OF ACCIDENT—STATE BELOW, IN DETAIL, ALL KNOWN FACTS AND CIRCUMSTANCES ATTENDING THE DAMAGE OR INJURY, INDENTIFYING PERSONS AND PROPERTY INVOLVED AND THE CAUSE THEREOF

I was driving west on Westside Drive and stopped for a stop sign at the intersection of Westside and Lemon Streets. I then proceeded through the intersection. When my car was about halfway through it was struck on the left rear by a Government car operated by Thomas Landvoight, A&TT Investigator, Internal Revenue Service. The rear of my car was damaged to the extent of $245 and I had doctors' bills, including X-Ray, of $125 due to an injury to my neck.

10. PROPERTY DAMAGE

NAME OF OWNER, IF OTHER THAN CLAIMANT	ADDRESS OF OWNER, IF OTHER THAN CLAIMANT

BRIEFLY DESCRIBE KIND AND LOCATION OF PROPERTY AND NATURE AND EXTENT OF DAMAGE. SEE INSTRUCTIONS ON REVERSE SIDE FOR METHOD OF SUBSTANTIATING CLAIM

Left rear door, left rear wheel, and left rear fender, and trunk lid. Itemized receipted bill for the repair work attached.

11. PERSONAL INJURY

STATE NATURE AND EXTENT OF INJURY WHICH FORMS THE BASIS OF THIS CLAIM

Due to impact of cars head was snapped to the side with resulting injury to neck. Statement by Dr. J. H. Burns concerning injury attached, as well as receipted bills for services by Dr. Burns and Memphis X-Ray laboratories.

12. WITNESSES

NAMES	ADDRESSES
Mildred Collins	4115 Westside Drive, Dallas, Texas

CRIMINAL PENALTY FOR PRESENTING FRAUDULENT CLAIM OR MAKING FALSE STATEMENTS

Fine of not more than $10,000 or imprisonment for not more than 5 years or both. (*See 62 Stat. 698, 749; 18 U.S.C. 287, 1001.*)

CIVIL PENALTY FOR PRESENTING FRAUDULENT CLAIM

The claimant shall forfeit and pay to the United States the sum of $2,000, plus double the amount of damages sustained by the United States. (*See R.S. §3490, 5438; 31 U.S.C 231.*)

13. *I DECLARE UNDER THE PENALTIES OF PERJURY* THAT THE AMOUNT OF THIS CLAIM COVERS ONLY DAMAGES AND INJURIES CAUSED BY THE ACCIDENT ABOVE DESCRIBED. I AGREE TO ACCEPT SAID AMOUNT IN FULL SATISFACTION AND FINAL SETTLEMENT OF THIS CLAIM.

SIGNATURE OF CLAIMANT

Earl Torgeson

DATE OF CLAIM

April 15, 1966

NOTE: Signature used above should be used in all future correspondence.

EXHIBIT 1(16)10–18—*Cont.*

NOTICE TO CLAIMANT

In order that your claim for damages may receive proper consideration you are requested to supply the information called for on both sides of this form. All material facts should be stated on this form, as it will be the basis of further action upon your claim. The instructions set forth below should be read carefully before the form is prepared.

INSTRUCTIONS

Claims for damage to or for loss or destruction of property, or for personal injury, must be signed by the owner of the property damaged or lost or the injured person. If, by reason of death, other disability or for reasons deemed satisfactory by the Government, the foregoing requirement cannot be fulfilled, the claim may be filed by a duly authorized agent or other legal representative, provided evidence satisfactory to the Government is submitted with said claim establishing authority to act.

If claimant intends to file claim for both personal injury and property damage, claim for both must be shown in item 8 on this form. Separate claims for personal injury and property damage are not acceptable.

The amount claimed should be substantiated by competent evidence as follows:

(a) In support of claim for personal injury or death, the claimant should submit a written report by the attending physician, showing the nature and extent of injury, the nature and extent of treatment, the degree of permanent disability, if any, the prognosis, and the period of hospitalization, or incapacitation, attaching itemized bills for medical, hospital, or burial expenses actually incurred.

(b) In support of claims for damage to property which has been or can be economically repaired, the claimant should submit at least two itemized signed statements or estimates by reliable, disinterested concerns, or, if payment has been made, the itemized signed receipts evidencing payment.

(c) In support of claims for damage to property which is not economically reparable, or if the property is lost or destroyed, the claimant should submit statements as to the original cost of the property, the date of purchase, and the value of the property, both before and after the accident. Such statements should be by disinterested competent persons, preferably reputable dealers or officials familiar with the type of property damaged, or by two or more competitive bidders, and should be certified as being just and correct.

Any further instructions or information necessary in the preparation of your claim will be furnished, upon request, by the office indicated at the top of the other side of this form.

INSTRUCTIONS REGARDING INSURANCE COVERAGE

In order that subrogation claims may be adjudicated, it is essential that the claimant provide the following information regarding the insurance coverage of his vehicle:

DO YOU CARRY COLLISION INSURANCE?	IF YES, GIVE NAME AND ADDRESS OF INSURANCE COMPANY AND POLICY NUMBER
☒ YES ☐ NO	National Insurance Corporation Dallas, Texas Policy No. 12345678

HAVE YOU FILED CLAIM ON YOUR INSURANCE CARRIER IN THIS INSTANCE, AND IF SO, IS IT FULL COVERAGE OR DEDUCTIBLE?	IF DEDUCTIBLE, STATE AMOUNT
Yes Deductible	$50.00

IF SUCH CLAIM HAS BEEN FILED, WHAT ACTION HAS YOUR INSURER TAKEN, OR WHAT ACTION DOES IT PROPOSE TO TAKE WITH REFERENCE TO YOUR CLAIM? *(It is necessary that you ascertain these facts)*

As liability appears to lie with U. S. Government, the insurance company is taking no action pending outcome of this claim. If claim not approved, insurance company will pay property damage over $50 and file claim or suit against the Government as subrogee.

DO YOU CARRY PUBLIC LIABILITY AND PROPERTY DAMAGE COVERAGE?	IF YES, GIVE NAME OF INSURANCE CARRIER
☒ YES ☐ NO	Same as above

SIGNATURE OF CLAIMANT

Carl Torgeson

U.S. GOVERNMENT PRINTING OFFICE: 1968—O-653283 543-C

SAFETY PROGRAM

EXHIBIT 1(16)10-11

Treasury Department
Form No. 3079 (8-65)

TO GAO 9C

CIVILIAN EMPLOYEE CLAIM FOR LOSS OR DAMAGE TO PERSONAL PROPERTY (P.L. 88-558)

Use ink or typewriter and submit in duplicate. See reverse side for instructions and additional information required.

1. Name, Grade, and Title of Claimant *(Please print full name)*
James J. Harris
GS-9, Administrative Assistant

2. Address of Claimant *(Street, City, State, Zip Code)*
202 Washington Street
New York, New York 61111

5. Amount of Claim
$30.00

3. Current Post of Duty
Room 1224
614 Indiana Avenue
New York, New York

6. Place where loss or damage occurred
Federal Building
New York, New York

4. Post of Duty at Time of Loss or Damage
Same as 3. above

7. Date of Loss or damage
April 1, 1966

8. Description of Property

Itemized Listing	Date Acquired	Purchase Price or Value	Value when Lost or Damaged	Estimated Repair Cost
Raincoat, wash and wear with removable lining	March 10, 1966	$30.00	$30.00	$12.00

(Attached supplemental sheet, if necessary)

9. Brief statement of circumstances:

Upon entering the Federal Building to report for work on April 1, 1966, I caught the right pocket of my raincoat on a protruding bolt on the entrance door and tore the pocket causing a rip about 12" long. The bolt was left when a handle had been removed and not replaced. I can have the tear stitched by a tailor, but the repair would be most unsightly.

CRIMINAL PENALTY FOR PRESENTING A FRAUDULENT CLAIM OR MAKING FALSE STATEMENTS:

Fine or not more than $10,000 or imprisonment for not more than 5 years or both *(See 62 Stat. 698, 749; 18 U.S.C. 287, 1001)*

CIVIL PENALTY FOR PRESENTING A FRAUDULENT CLAIM: The claimant shall forfeit and pay to the United States the sum of $2,000, plus double the amount of damages sustained by the United States. *(See R.S. Sec. 3490, 5438; 31 U.S.C. 231)*

10. I make this claim with full knowledge of the penalties for willfully making a false claim, and certify that I am entitled to any payment.

11. I hereby assign to the United States, to the extent of any payment on this claim accepted by me, all my right, title, and interest in and to any claim I may have against any carrier, insurer or other party, arising out of the above-described incident.

Date of Claim	If claimant is not owner, state relationship	Signature of Claimant
April 6, 1966		James J. Harris

EXHIBIT 1(16)10–11—*Cont.*

INSTRUCTIONS

(a) In support of claims for damage to property which has been or can be economically repaired, the claimant should submit at least two itemized signed statements or estimates by reliable, disinterested concerns, (only one statement or estimate need be submitted if the amount claimed is $100 or less) or, if payment has been made, the itemized signed receipts evidencing payment.

(b) In support of claims for damage to property which is not economically reparable, or if the property is lost or destroyed, the claimant should submit statements as to the original cost of the property, the date of purchase, and the value of the property, both before and after the accident. Such statements should be by disinterested competent persons, preferably reputable dealers or officials familiar with the type of property damaged, or by two or more competitive bidders, and should be certified as being just and correct.

(c) See section 6 of Treasury Military Personnel and Civilian Employees' Claims Act Regulations for the additional evidence required for claims for property loss in quarters or other authorized places; claims for property loss by theft; claims for transportation losses; claims for property losses due to marine or aircraft disaster; claims for property losses due to enemy action, public disaster, etc.; claims for property losses when the property was used for benefit of the government; claims for loss of money deposited for safekeeping, transmittal, or other authorized dispositions; and claims for motor vehicles damaged while being shipped.

(d) See section 7 of Treasury Military Personnel and Civilian Employees' Claims Act Regulations for additional procedures that must be followed in claims involving a carrier or insurer.

(e) The maximum amount allowable on any claim is $6,500.

* U. S. GOVERNMENT PRINTING OFFICE : 1972 O - 455-452