

DOCKET NO. 70-820

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NLS-142

April 2, 1965

Mr. Donald A. Nussbaumer, Chief
Source & Special Nuclear Materials Branch
Division of Materials Licensing
U. S. Atomic Energy Commission
Washington, D. C. 20545

Subject: Amendment to SNM 777

Dear Mr. Nussbaumer:

Please amend License SNM 777 to incorporate the attached General Section
(Section 1200) and sketches.

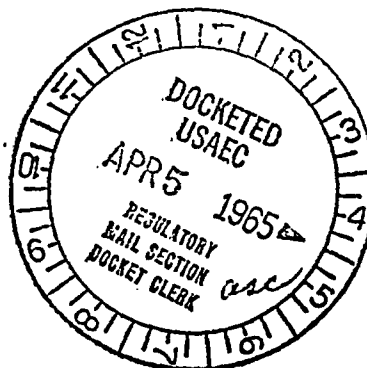
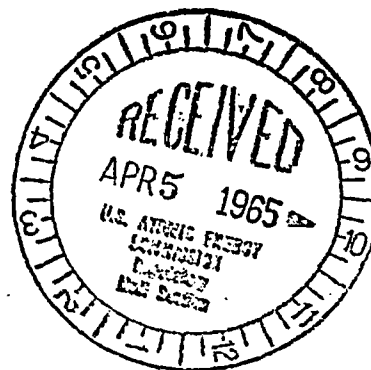
Very truly yours,

D. F. Cronin

DFC:tc

D. F. Cronin
Director of Licensing

attachments



also furnished
to the
for the
by the

lake

4/6/65-PRR

C-99
ACKNOWLEDGED

**UNITED NUCLEAR
CORPORATION**

NO. 1200

PAGE 1 OF

SUBJECT: GENERAL

ISSUED 3/29/65

SUPersedes

1201. Vacuum Cleaner

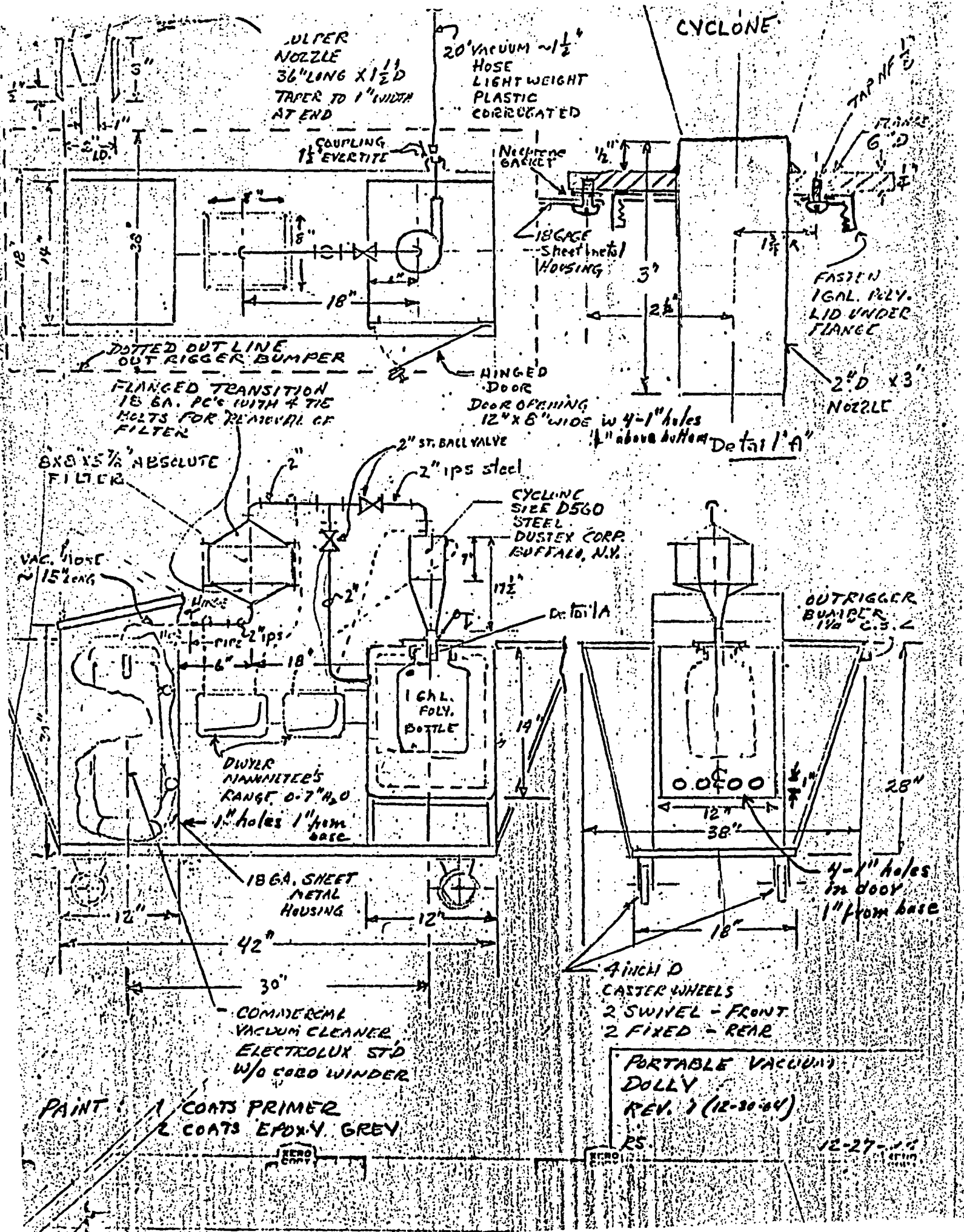
Dry materials such as residual ash in the DDU retort will be vacuumed from the source point to a safe volume container fastened under a 5" diameter cyclone mounted in a portable vacuum cleaner unit. Particulate fines which pass through the cyclone are collected on an 8" x 8" x 5" absolute - type air filter. A manometer is provided to monitor the pressure drop across the filter and the cyclone. The vacuum producer is a commercial tank-type vacuum cleaner approximately 7" wide at the widest point which is in the motor housing. The 3 ply filter bag which is used only in case of a rupture or leak in the absolute filter has a 2.7L volume. The vacuum cleaner and one gallon container are each separately housed on the portable frame. A steel outrigger bumper is fastened from the dolly at a 32" level above the floor and extends 10" from the outer perimeter of the dolly. The vacuum cleaner, mounted vertically, is spaced 30" on centers from the 1 gallon container and the cyclone. The 8" square filter is mounted between and 15" on centers from the cyclone.

Nuclear Safety Considerations: Each unit in the portable vacuum cleaner is dimensionally safe.

Interaction between units on the cart, considering the cyclone and receiver as the most reactive unit and for interaction calculations as a 6" diameter cylinder the total solid angle is:

due to filter	0.895
due to vacuum cleaner =	<u>0.1922</u>
	1.087 steradians

The outrigger framework on the cart assures a 19" minimum center to center spacing from adjacent equipment. The computed solid angle between the cyclone and receiver on the cart and an adjacent 5" diameter 42" long cylinder of uranium solution is 0.571 steradians.



ULTRER
NOZZLE
36" LONG X 1 1/2"
TAPER TO 1" WIDTH
AT END

20' VACUUM ~ 1 1/2"
HOSE
LIGHT WEIGHT
PLASTIC
CORRUGATED

CYCLONE

TAP 1/2"

COUPLING
1 1/2" EVERITE

NEPTUNE
GASKET
1/2"
18 GAGE
Sheet Metal
HOUSING

FASTEN
1 GAL. POLY.
LID UNDER
FLANGE

2" D x 3"
NOZZLE

DOTTED OUT LINE
OUT RIGGER BUMPER

FLANGED TRANSITION
18 GA. PC'S WITH 4 TIE
BOLTS FOR REMOVAL OF
FILTER

HINGED
DOOR
DOOR OPENING
12" x 6" WIDE w 4-1" holes
1" above bottom

Detail A

8x8x5 1/2" ABSOLUTE
FILTER

VAC. HOSE
~ 15' LONG

2" ST. BALL VALVE
2" IPS steel

CYCLONE
SIZE D560
STEEL
DUSTEX CORP.
BUFFALO, N.Y.

1 GAL.
POLY.
BOTTLE

DWYER
MANIFOLD'S
RANGE 0-7 H₂O

1" holes 1" from
base

18 GA. SHEET
METAL
HOUSING

OUTRIGGER
BUMPER
1 1/2" C.S.

4-1" holes
in door
1" from base

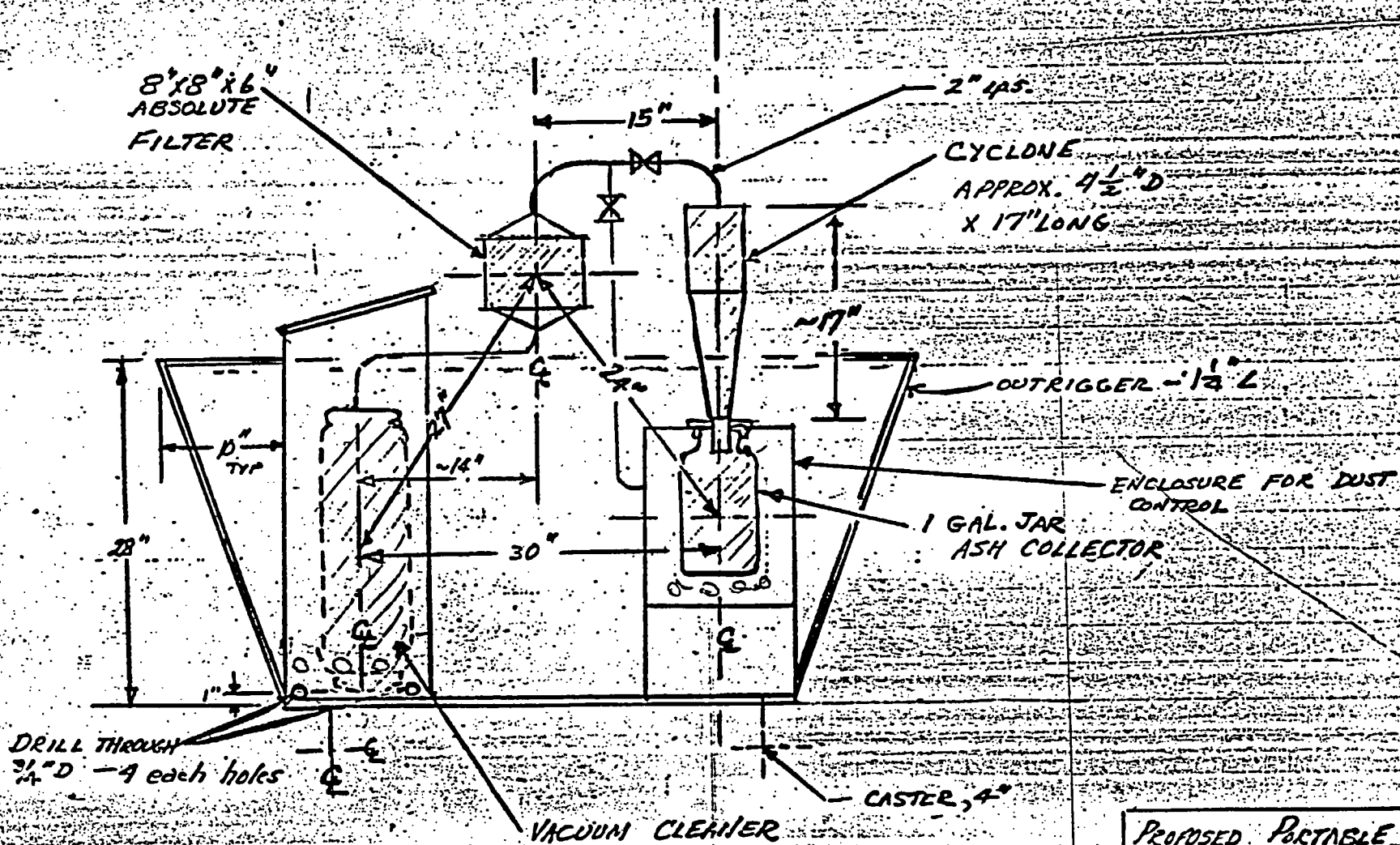
4 INCH D
CASTER WHEELS
2 SWIVEL - FRONT
2 FIXED - REAR

PORTABLE VACUUM
DOLLY
REV. 1 (12-30-64)

PAINT : 1 COATS PRIMER
2 COATS EPOXY GREY

12-27-64

RS

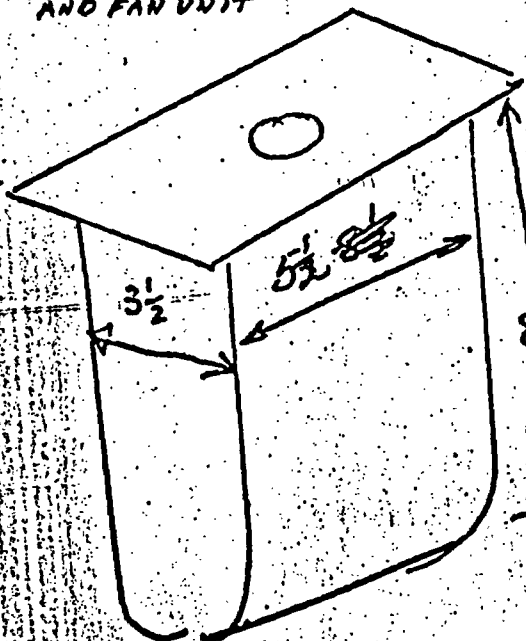


PROPOSED PORTABLE
VACUUM CLEANER
UNIT -
UNC - FRP RI
12-31-64

ELECTROLUX VAC. CLEANER



PLAN VIEW



3PLY FILTER BAG

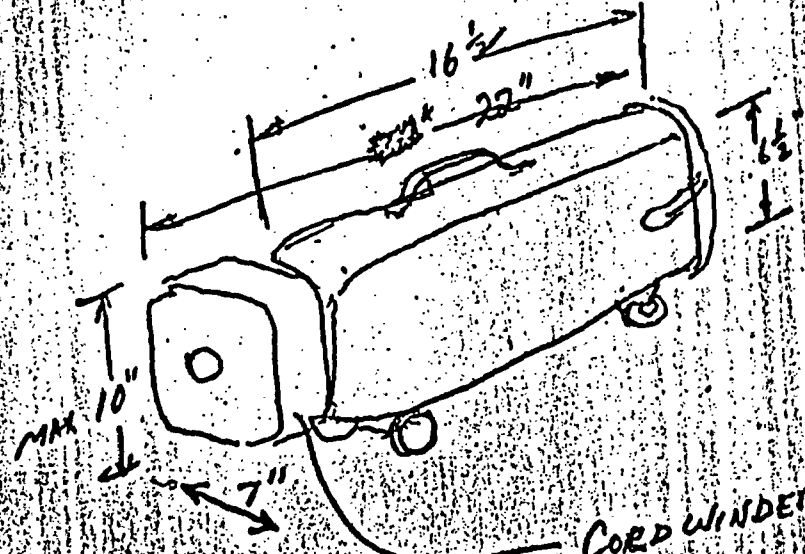
VOLUME

$$\begin{array}{r} 3.5 \\ 5.5 \\ \hline 17.5 \\ 17.5 \\ \hline 19.25 \\ 8.5 \\ \hline 96.25 \end{array}$$

$$8 \frac{1}{2} \frac{15400}{163.625 \text{ cu in}}$$

$$\begin{array}{r} 164 \\ 16.39 \text{ ml/cu in} \\ \hline 656 \\ 984 \\ \hline 164 \end{array}$$

$$2689.6 \text{ ml} = 2.7 \text{ L}$$



CORD WINDER

hose diameter
1/4" FITTINGS

12/29/68