

NRC FORM 313  
(1-84)  
10 CFR 30, 32, 33, 34,  
35 and 40

APPENDIX A  
APPLICATION FOR MATERIAL LICENSE

U.S. NUCLEAR REGULATORY COMMISSION  
APPROVED BY OMB  
3150-0120  
Expires: 5-31-87

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

FEDERAL AGENCIES FILE APPLICATIONS WITH:

U.S. NUCLEAR REGULATORY COMMISSION  
DIVISION OF FUEL CYCLE AND MATERIAL SAFETY, NMSS  
WASHINGTON, DC 20555

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS, IF YOU ARE LOCATED IN:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND, MASSACHUSETTS, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION I  
NUCLEAR MATERIALS SECTION  
631 PARK AVENUE  
KING OF PRUSSIA, PA 19406

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION II  
MATERIAL RADIATION PROTECTION SECTION  
101 MARIETTA STREET, SUITE 2900  
ATLANTA, GA 30322

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION III  
MATERIALS LICENSING SECTION  
799 ROOSEVELT ROAD  
GLEN ELLYN, IL 60137

ARKANSAS, COLORADO, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, SOUTH DAKOTA, TEXAS, UTAH, OR WYOMING, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION IV  
MATERIAL RADIATION PROTECTION SECTION  
611 RYAN PLAZA DRIVE, SUITE 1000  
ARLINGTON, TX 76011

ALASKA, ARIZONA, CALIFORNIA, HAWAII, NEVADA, OREGON, WASHINGTON, AND U.S. TERRITORIES AND POSSESSIONS IN THE PACIFIC, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION V  
MATERIAL RADIATION PROTECTION SECTION  
1450 MARIA LANE, SUITE 210  
WALNUT CREEK, CA 94596

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTION.

1. THIS IS AN APPLICATION FOR (Check appropriate item):

- ☐ A. NEW LICENSE  
☒ B. AMENDMENT TO LICENSE NUMBER 48-18213-01  
☐ C. RENEWAL OF LICENSE NUMBER \_\_\_\_\_

2. NAME AND MAILING ADDRESS OF APPLICANT (Include Zip Code)

City of Appleton  
Wastewater Division  
59 Weimar Court  
Appleton, WI 54915

3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED:

SE part of Appleton; 1 1/2 blocks east of Telulah Park and 2 blocks north of Newberry Avenue, located along the Fox River. See Attached Map.

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Peter C. Wachs, Superintendent

TELEPHONE NUMBER

(414) 735-5945

SUBMIT ITEMS 5 THROUGH 11 ON 8 1/2 x 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL SEE ATTACHED SHEET.  
a. Element and mass number, b. chemical and/or physical form, and c. maximum amount which will be possessed at any one time.

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE.

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.

9. FACILITIES AND EQUIPMENT.

10. RADIATION SAFETY PROGRAM.

11. WASTE MANAGEMENT.

12. LICENSEE FEES (See 10 CFR 170 and Section 170.31)

FEE CATEGORY AMOUNT ENCLOSED \$ N/A

13. CERTIFICATION. (Must be completed by applicant). THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, AND 40 AND THAT ALL INFORMATION CONTAINED HEREIN, IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948, 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

SIGNATURE—CERTIFYING OFFICER

TYPED/PRINTED NAME

TITLE

DATE

*Peter C. Wachs*

PETER C. WACHS

SUPERINTENDENT

7-18-85

14. VOLUNTARY ECONOMIC DATA

ANNUAL RECEIPTS	
<\$250K	\$1M-3.5M
\$250K-500K	\$3.5M-7M
\$500K-750K	\$7M-10M
\$750K-1M	>\$10M

b. NUMBER OF EMPLOYEES (Total for entire facility excluding outside contractors)

c. NUMBER OF BEDS

d. WOULD YOU BE WILLING TO FURNISH COST INFORMATION (Dollar and/or staff hours) ON THE ECONOMIC IMPACT OF CURRENT NRC REGULATIONS OR ANY FUTURE PROPOSED NRC REGULATIONS THAT MAY AFFECT YOU? (NRC regulations permit it to protect confidential commercial or financial—proprietary—information furnished to the agency in confidence)

☐ YES

☐ NO

FOR NRC USE ONLY

TYPE OF FEE

FEE LOG

FEE CATEGORY

COMMENTS

APPROVED BY

8508140255 850801  
REG3 LIC30  
48-18213-01 PDR

DATE

ITEMS 5 THROUGH 11

5. 1. The City of Appleton-Wastewater Division plans to purchase from Texas Nuclear Corporation, a Model 5034 belt weigh scale containing 200 mCi of Cs-137.
2. Source Holder - doubly encapsulated in a heliarc welded, stainless steel capsule.
3. 200 mCi

Please see Attachment 1 - Manufacturer's Equipment Description.  
Part B-1, a,b,c,d,e

6. To measure the weight of the sludge (density converted to weight)
7. At the time of installation, the supplier of the instrument has been retained for start up and instruction.
8. Personnel will receive training at time of start up by supplier.
9. 1. Sketch is included. (Attachment 2)
2. Maximum temperature outside ambient air temperature
3. N/A
4. N/A
5. On site personnel to perform standard checks. Maintenance to be performed by scale supplier/manufacturer.
6. Closing shutter, isolate area of building instrument contained in, notify proper authorities. Responsible personnel: Peter C. Wachs, Superintendent, Steve Hetzel, Manager of Maintenance
10. Texas Nuclear, a subsidiary of Ramsey Engineering, is contracted to perform task.
  - 10.1 Texas Nuclear Test Kit #QT/1K
  - 10.2 N/A
  - 10.3 Geiger Counter, OCDM Item # CDV-700, Model # 6A, Ser. No. 10307 Victoreen Inst. Co. Calibrated 2-26-85
  - 10.4 Use leak test kit (#QT/1K) and send to supplier for reading.
  - 10.5 Procedures for lock out will be formulated and posted at the entrance to the room housing the device. The responsible persons are named in 9.6.
  - 10.6 Service to be performed by Texas Nuclear/Ramsey Engineering.
11. Secured and returned to Manufacturer.
12. N/A

# CITY OF APPLETON AND ENVIRONS



● Plant Location

SCALE  
1" = 1/4 MILE  
PREPARED BY  
CITY OF APPLETON, WISCONSIN  
DEPARTMENT OF PUBLIC UTILITIES

# RAMSEY ENGINEERING CO.

1853 W. COUNTY RD. C  
ST. PAUL, MINNESOTA 55113  
PHONE (612) 633-5150  
CABLE ADDRESS: RAMCO  
TELEX: 29-7001

## AFFILIATES IN

Toronto · Mexico City · Sydney · Madrid · Milan  
Amsterdam · London · Johannesburg

TO: City of Appleton  
Department of Public Works  
59 Weimar Court  
Appleton, Wisconsin 54915  
Attention: Mr. Peter C. Wachs

Date February 11, 1985  
Your Inq Verbal  
Our Ref. #02295

Item	Quantity	Description	Price
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We are pleased to submit the following quotation for a Ramsey NAF Series Conveyor Belt Scale.

### A. APPLICATION SPECIFICATIONS:

Please see the enclosed pricing and supplementary data sheet for all scale application data.

### B. EQUIPMENT DESCRIPTION:

Ramsey will supply the "A" Frame Model NAF Belt Scale System consisting of the following:

#### 1. Ramsey "A" Frame Belt Scale Source and Detector Assembly.

##### (a) Gauge Head:

The gauge head construction is bolted steel, "A" Frame. The upper portion contains the source collimator and shutter assembly. The detector heater assembly and heater control assembly are housed in the lower section.

This unit is certified to meet Class I, Groups C & D, Class II, Groups E, F & G, and Class III requirements for hazardous environments. The detector housing is rated Class IV.

##### (b) Radiation Sources:

Radiation sources are Cesium 137, doubly encapsulated in a heliarc welded, stainless steel capsule.

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Item	Quantity	Description	Price
		(c) <u>Radiation Shielding:</u>	
		Radiation shielding is of lead and special metal alloys. Radiation levels are below 5 mR/hr, one foot from any accessible surface, except within the measurement beam. Design and construction meets the safety requirements of the Nuclear Regulatory Commission (NCR) and Agreement State licensing agencies.	
		(d) <u>Shutter:</u>	
		The shutter is two positioned, lever actuated, steel encased lead block, and may be fastened in open or calibrate position; may be locked in closed position.	
		(e) <u>Detector:</u>	
		The detector is an ion chamber, heliarc welded and of stainless steel construction with temperature controlled to eliminate humidity effects. The operating temperatures are from -40 Degrees F. to +155 Degrees F.	
		(f) <u>Interconnecting Wiring:</u>	
		The interconnecting wiring is a 4-conductor shielded amplifier/detector cable for signal and DC voltages; 2-conductor shielded cable (#18 wire) for detector heater (supplied by user). May be connected to local AC outlet or to amplifier. One #14 ground wire to be supplied by user, if required by local wiring codes. Not essential to equipment operation. The threaded conduit connector is 3/4".	
		(g) <u>Ramsey Model 10-201-I MICRO-TECH Electronic Integrator:</u>	
		(1) Microprocessor-type integrator with count rates up to 100,000 counts per hour.	
		(2) Simple keyboard entry of field calibration data.	
		(3) Single button ZERO and SPAN (see calibration below).	

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Item	Quantity	Description	Price
		(4) Built in diagnostics confirm proper operation of:	
		(a) Internal program	
		(b) Belt travel (speed) input	
		(c) Weight input	
		(d) Alarms for abnormal field conditions.	
		(5) Lamp test for all segments of displays plus lighted pushbuttons.	
		(6) Outputs:	
		(a) Eight digit vacuum fluorescent display normally used to show TOTAL.	
		(b) Eight digit vacuum fluorescent display used to show RATE in engineering units and to indicate special functions.	
		(c) Dry contact to give one pulse per increase of the least significant digit of TOTAL.	
		(d) Analog rate signal 0-20, 4-20 ma d-c.	
		(7) Calibration:	
		(a) AUTO ZERO. A TEST DURATION is established in the field to represent one or more belt revolutions. When AUTO ZERO is initiated, the unit integrates for the pre-determined TEST DURATION and accumulates any error in engineering units. Operator can with a single keystroke instruct the unit to compute a new value of ZERO or can ignore the test results and retain the old value of ZERO.	
		(b) AUTO SPAN. Using TEST DURATION as described above, testing can be done with electronic calibration (included), chains or weights. On command, the unit will compute and install a new value of SPAN based on test results.	
		(c) AUTO ZERO TRACK. If AUTO ZERO TRACKING is enabled, the unit will attempt to accomplish an AUTO ZERO at any time when belt loading is less than 2% of scale capacity. The unit delays for one-half TEST DURATION. If at any time the belt loading exceeds 2% of scale capacity, the unit returns to the delay portion of the AUTO ZERO TRACK procedure.	
		(8) NEMA-4 enclosure.	
		(9) Power required. 115 VAC, 50-60 Hz, 10 VA.	
		(10) Automatic source decay compensation.	



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Item	Quantity	Description	Price
		(h) <u>Signal Linearization for Belt Loading:</u>	
		<p>All nuclear weigh scales are non-linear, since the scale output varies in a negative exponential fashion, with the product loading.</p> <p>The Ramsey linearizer is specifically designed to linearize the signal from a gamma ray absorption type weigh system. This linearizer generates the mathematical inverse of the exponential relation between radiation intensity and product loading, thus providing fully automatic signal linearization.</p>	
		(l) Benefits of the Ramsey linearizer:	
		(a) Ease of set-up, single control, the correction factor automatically adjusts the linearizer.	
		(b) When used in conjunction with the Automatic Source Decay Compensator, this linearizer is unique. The total system has no drift; (i.e., <u>is completely stable</u> ).	
		3. <u>Tachometer:</u>	
		Ramsey Model 60-12 Speed Sensor. The linearizer/multiplier accepts the pulse input from the tachometer, which represents belt travel. The linearizer loading signal is multiplied by the pulse input to give an output equal to the total system throughput.	
		4. <u>Calibration Plate Assembly:</u>	
		After the system has been calibrated on process material, the calibration plates provide a quick check on system performance. With the belt running empty, the calibration plate assembly is placed beneath the source to attenuate radiation, thus simulating belt loading. Plate thickness is adjusted to provide an upscale meter deflection which is recorded and used for future system checkout and/or recalibration.	

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Item	Quantity	Description	Price
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5. Manuals:

Two instruction manuals will be provided with each scale system purchased.

C. PRICING:

Please see the enclosed Pricing and Supplementary Data Sheet for all pricing information.

D. TERMS AND CONDITIONS:

1. Field engineering service is available for supervision of installation, start-up, initial calibration and operator training at the rate, and under the terms and conditions as spelled out in the attached "Conditions of Service". Daily rate is firm for six (6) months from the date of quotation. The daily rate beyond the six (6) month period will be invoiced at the prevailing rate at the time of service.
2. We estimate two (2) days per scale at the jobsite for field installation.
3. Prices quoted are firm subject to receipt of your order within days from the date of this proposal. Further, pricing is subject to your release of order for shipment per our normal delivery schedule. If not ordered within days, or in the case of orders with extended delivery requirements, this quotation is subject to repricing.
4. F.O.B. Point is factory.
5. Delivery will be approximately thirteen (13) weeks after receipt of approval drawings or when the end user has the proper licenses in their possession, whichever is later.



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Item	Quantity	Description	Price
------	----------	-------------	-------

6. Payment terms are Net Thirty (30) days.

7. Warranty is per the enclosed.

cc: Chicago Power & Process  
625 West University Drive  
Arlington Heights, Illinois 60004  
312-870-7900

NO LOCAL, STATE OR FEDERAL TAXES INCLUDED

Approx. Shipping Date: SEE ABOVE

F.O.B. St. Paul, Minnesota Terms: Net Thirty (30) Days

RAMSEY ENGINEERING COMPANY  
IF ACCEPTED, PLEASE FURNISH THE ABOVE QUOTED ITEMS AT THE SPECIFIED PRICES

PURCHASER \_\_\_\_\_

BY \_\_\_\_\_ DATE \_\_\_\_\_

Submitted by:

**Robert W. Peterson**  
Regional Sales Manager

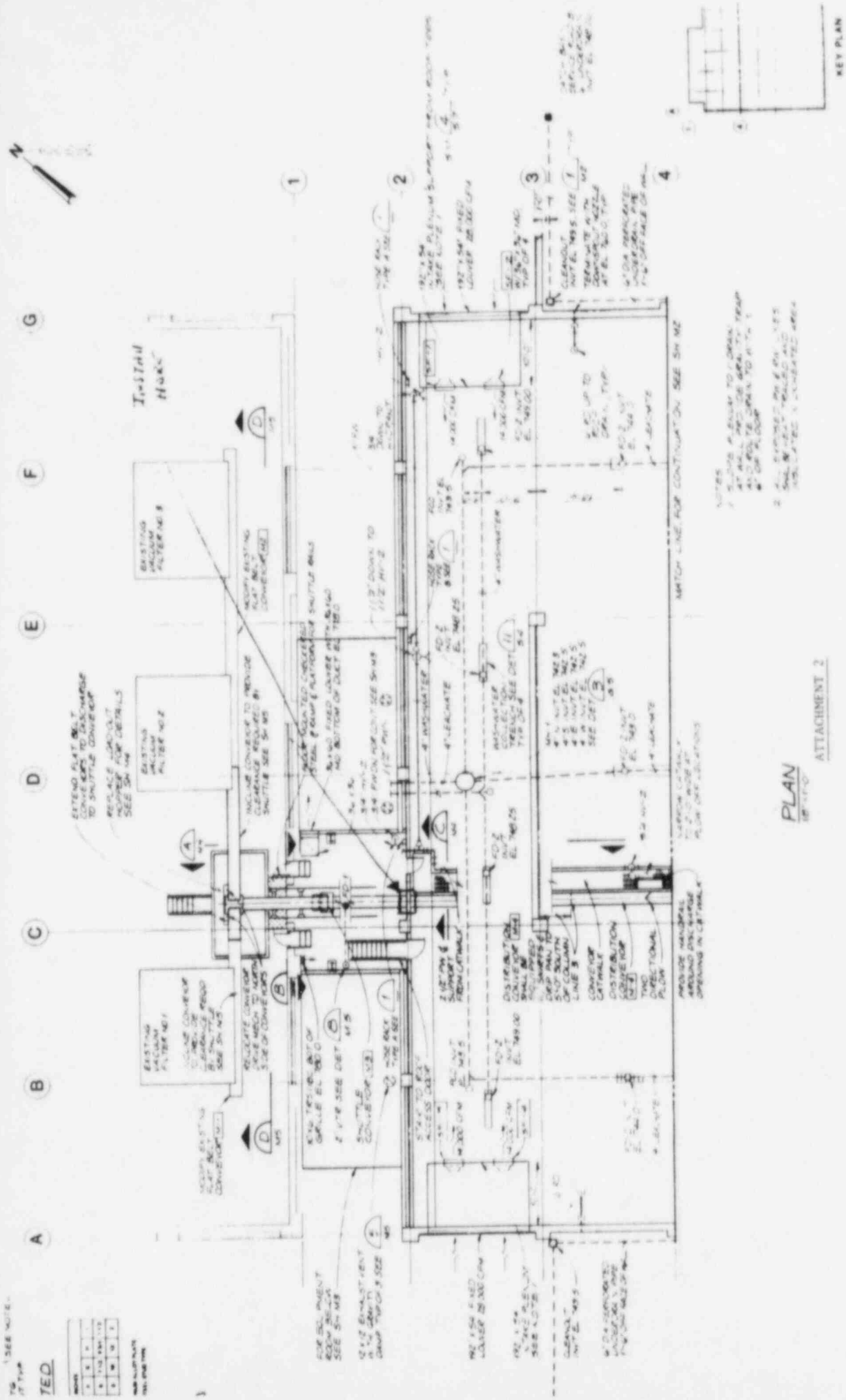
Sig. 

13 SEE NOTE.

TED

NO.	DATE
1	11/11/11
2	11/11/11
3	11/11/11
4	11/11/11

11/11/11



- NOTES
- 1. SHUTTLER PLUMBING TO CORNER AT WALL AND TO AREA TRAP AND TO AREA TRAP TO AREA TRAP.
  - 2. ALL SHUTTLER PIPING SHALL BE 1/2" WALL AND INSULATED IN UNHEATED AREA.

PLAN  
11/11/11  
ATTACHMENT 2