



TESTING U.S.A. INC.

71-0749

December 12, 1996

Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Sandra Kimberly, Steve Baggett, Douglas Brodis
John Jankovich, Cass R. Chappell, John Labinsky
and Mr. Messier

Re: Information regarding custom review of exposure device
not previously registered for use in the U.S.

Ladies and Gentlemen,

I would first like to thank each of you for the help that you have extended to me in the recent weeks regarding the above. I have decided to put in a letter, the best that I can, a broad overview of what we are trying to accomplish and then get back in touch with each of you to be sure that we are going in the right direction. Any suggestions would be greatly appreciated.

Rivest Testing USA, Inc. is located in Tulsa, Oklahoma and has an NRC Radioactive Materials License. Rivest Testing, Inc. is the parent company, located in Edmonton, Alberta, Canada. Rivest owns four (4) Gammamat Isotope Crawlers, manufactured by Isotopen Technik in Haan, Germany. I have attached a picture of the device.

We requested an amendment to our NRC License earlier this year, adding the exposure device, source assembly and command isotope to our License. We were informed by the NRC that they were unable to locate a registry sheet for the device and that we had two (2) options available. First, request that the device be registered by custom review for our use only. We would be required to provide all the information and fees associated with this review. Second, request the manufacturer to seek registration for distribution of this device in the United States.

We had decided to seek a custom review and I started to contact the departments involved. I first visited with the fee department and I believe that the cost for this review will be \$1700.00 (Item 9 (B) page 42, 1996 fees). I talked with Ms. Kimberly and am under the impression that if the device is approved, we will be issued a registration number and will be billed annually for this registration.

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When we get the necessary information together, our application for custom review would be sent to the attention of Mr. Baggett's office. I was able to visit with Mr. Brodis and am under the impression that the exposure device with source assembly and command isotope will be reviewed as one and will be given one registration number if approved.

If approved, we would again request an amendment to our NRC License asking that this equipment be added, allowing us to possess and use it in the U.S.

For transportation of the device, we must have a Cert. of Compliance. I have several questions to ask on this matter and would appreciate any and all suggestions.

Whomever is named on the Certificate of Compliance is the party responsible for the design, construction and quality control of the package and must have a broad scope quality assurance program before an application will be reviewed.

Could Rivest Testing USA be named on the Certificate of Compliance if the manufacturer provided Rivest with the quality assurance program to have for inspection purposes?

Would an inspection take place at our facility or at the manufacturer's facility in Germany?

Would our annual fee be \$72,700.00?

As a small entity would we pay \$1800.00 for the annual fee?

Is full cost for review billed at \$128.00 per hour?

During the review that is billed at full cost, is there a way the applicant can get the number of hours that have been logged? Can the applicant ask to be notified when the hours reach a certain number? Can the applicant ask that the review be terminated?

Could we be issued a general license under 10CFR 71.16?

How could one get a foreign national competent authority certificate revalidated by DOT?

If we qualify under 10CFR 71.16 and 49CFR 171.12a & 171.12 (d) could we transport the device as it would be coming from Canada?

Is there a cost associated with approval of a Type A container?

Does a Type A require a Certificate of Compliance?

Is there an annual fee for Type A container?

As a small entity could we ask for approval to transport package which meets Canadian and IAEA regulations for our unique use only?

We are looking for the most cost effective avenue that we can pursue as a small business. With gross sales this year around \$50,000.00, a certificate that cost \$50,000.00 would not be worth pursuing. We know that the decision is ours to make but any suggestions or avenues that we might be overlooking, if brought to our attention, would be very much appreciated. If possible, I would like to contact you Thursday or Friday of this week.

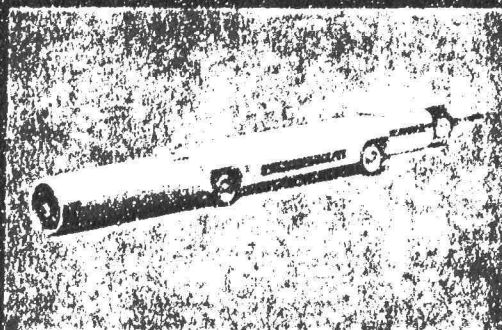
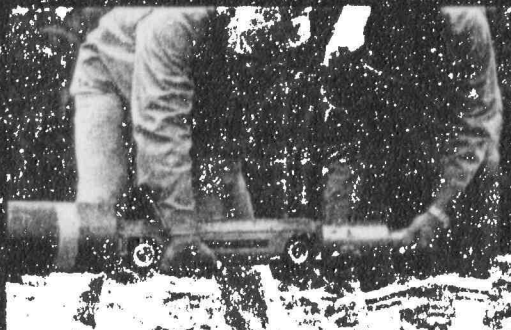
Thank you.

Jim Kelly

Jim Kelly
Rivest Testing USA, Inc.

GAMMATAT® M

Self-Propelled Isotope Crawler for Pipeline Radiography



GAMMATAT M 6

For pipe sizes from 6 inches to 18 inches.

Optimized shielding design, advanced materials and high technology electronics result in a light weight but robust device.

GAMMALUX M

Signals the location of the crawler and provides both a visual and audible warning during source exposure.

The Command unit accurately positions the Ir-192 source at the radiographic position.



GAMMATAT M 60

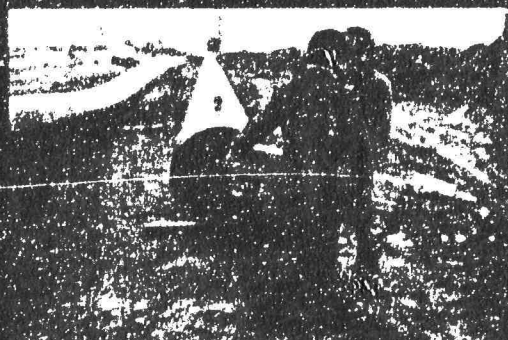
For pipe sizes from 18 inches to 60 inches.

The crawler allows accurate positioning of the Ir-192 source at the axis of the pipe over the entire range of pipe sizes.



GAMMATAT M

Permits high quality, cost-effective testing to keep pace with pipeline production fabrication.



GAMMAT[®] M

In today's pipeline construction work an exact radiographic inspection of circumferential welds is generally required. In order to obtain radiographs of sufficiently high resolution a true radial X-ray beam has to be used^{*)} i.e. the source of X-rays (radioisotope Ir-192) has to be accurately centered inside the circumferential weld. Our completely self-contained Pipeline Crawler GAMMAT M fully satisfies these requirements. In addition it provides the advantage of a single shot inspection for each weld which leads to a tremendous increase in inspection speed.

The Pipeline Crawler GAMMAT M is available in two different sizes 6" to 18" and 18" to 60" O.D. It is fully battery-operated and does not require any external power.

An external radioisotope control unit is used to control the following functions of the crawler:

PROCEED - RETRACT - STOP - EXPOSE

The design of the crawler combines all necessary gear for drive, control, power supply and radiation shielding for the Ir-192 source in one integrated unit, propelled through the pipeline on four wheels. In this way excellent driving characteristics are obtained:

- Positioning - Source is positioned exactly in the plane of the pipe weld by highly collimated control beams
- Alignment - any deviation from vertical is automatically corrected
- Maximum inclination - up to 45% ascent possible

The light weight but robust design of the GAMMAT M provides the benefit of extremely low power consumption. The maximum

pipeline length examined without recharging batteries is approximately 2 kilometres.

During exposure a well collimated radial beam is emerging from the pipe which only requires a limited safety zone. Thus at the same time the adjacent weld can be prepared for inspection. Using maximum source strength the dose rate at 10 m from the exposed weld is only 0.05 mSv/h. In case of a failure of the power supply the source returns automatically into the shielding. Even if one of the control circuits fails, the electronic control permits the crawler to be moved out of the pipe so that no cutting of the pipeline is required. The crawler is normally equipped with two sets of batteries so that uninterrupted operation is possible by exchange of the empty batteries.

The external control unit with the command radioisotope is posi-

tioned on the pipe at a fixed distance from the weld. When the crawler arrives it stops so that the central line of the radiation beam is exactly in the plane of the circumferential weld. At this point a light signal on the external localising device GAMMALUX M indicates that the crawler is positioned and ready for exposure. Some 10 seconds after the exposure command has been given by a radiation pulse from the command isotope - enough time for the operator to leave the safety zone - the exposure is started automatically. During the time of exposure which can be preselected up to a duration of 1000 seconds, an optical and acoustic alarm is actuated.

The localising device GAMMALUX M can also be used to determine the position of the crawler in the pipeline if any later

	GAMMAT M6	GAMMAT M18		GAMMAT M6	GAMMAT M18
Crawler			Accessories		
Range of pipeline diameter	6"-18"	18"-60"	External Control Unit (command modes: proceed, retract, stop, expose). Command signals are generated by weak gamma source, sufficient for wall thickness up to 25 mm (1"). Command isotope Cs-137.		
Dimensions (overall length x O.D.)	1.25 m x 0.14 m	1.35 m x 0.36 m	Weight	approx. 100 mCi (3.7 GBq)	approx. 250 mCi (9.25 GBq) (max. 350 mCi/12.95 GBq)
Weight (total)	36 kg (78 lbs)	81 kg (178 lbs)	Localising and warning device GAMMALUX M	lamp and horn	lamp and horn
Drive motor	24 V/65 W	24 V/140 W	Batteries (sealed) 12 hours continuous operation	12 V/2 Ah	12 V/2 Ah
Batteries (sealed)	24 V/7 Ah	24 V/24 Ah	Weight	4 kg (8.8 lbs)	4 kg (8.8 lbs)
Drive wheels diameter	80 mm	140 mm	Charger - with time control for charging (for the batteries of the crawler and the localising device)		
Max. pipeline length to be examined without battery recharge weld to weld distance 12 m (40 feet)	approx. 2 km	approx. 2 km	Connecting voltage optional	220 V/50 Hz 110 V/60 Hz	220 V/50 Hz 110 V/60 Hz
Crawler speed (horizontal)	approx. 14 m/min	approx. 10 m/min	Charging current	0.7 A/0.2 A	max. 2 A/0.2 A
Maximum inclination (in dry steel pipe)	45%	45%	Weight	4 kg (8.8 lbs)	5 kg (11 lbs)
Minimum radius of curvature	approx. 10 x D	approx. 10 x D	Transport container for source shielding Type B (U)-Certificate	D/2031/B(U)	D/2021/B(U)
Precision of alignment with weld position	± 5 mm	± 5 mm	Weight	27 kg (60 lbs)	27 kg (60 lbs)
Shielding: depleted uranium, max. activity for Ir-192 ^{*)}	60 Ci (2.2 TBq)	100 Ci (3.7 TBq)			
Opening angle of radial beam	60°	60°			
Delay time between exposure command and exposure start	approx. 10 sec	approx. 10 sec			
Time of exposure (continuously adjustable)	1-1000 sec	1-1000 sec			

Subject to technical changes

^{*)} Shielding is sufficient to provide max. dose rate of 0.25 mSv/h at 20 cm (8") distance from surface for maximum source strength.

ISOTOPENTECHNIK DR. SAUERWEIN GMBH

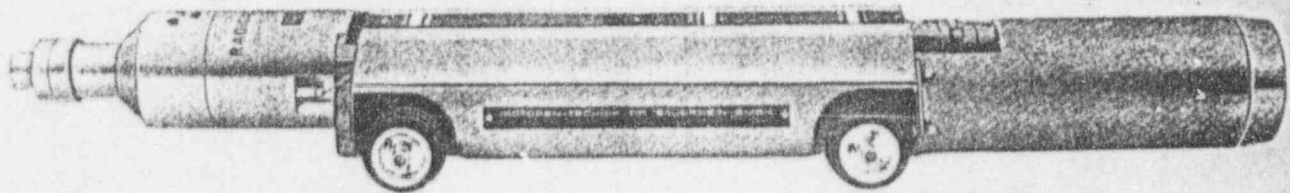


Germany, Bergische Str. 16, Postfach 1354, D-5857 Haan/V.Rheinl. (Tel. 021 29 551-0, Telex 858 492 sow g, Telefax 551 55)

INTERNAL CRAWLERS

GAMMA-RAY

GAMMAMAT
M

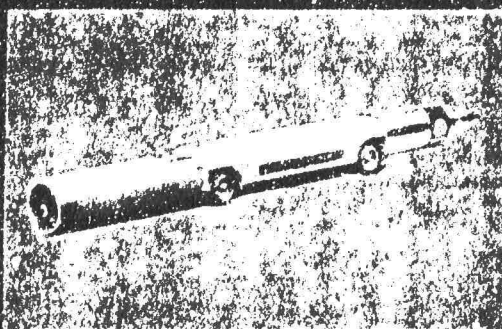


SPECIFICATIONS

Source Iridium 192
Range of Pipeline Diameter 6" - 24"
Dimensions (overall length x O.D.) 1.2 m x 0.14 m
Weight 30 kg (65 lbs.)
Max. Pipeline Length to be examined without battery change or recharge Approx. 2 km
Maximum Inclination 45°
Crawler Speed (horizontal) 14 m per min.
Minimum Radius of Curvature 10 x D.

GAMMAMAT® M

Self-Propelled Isotope Crawler for Pipeline Radiography



GAMMAMAT M 6

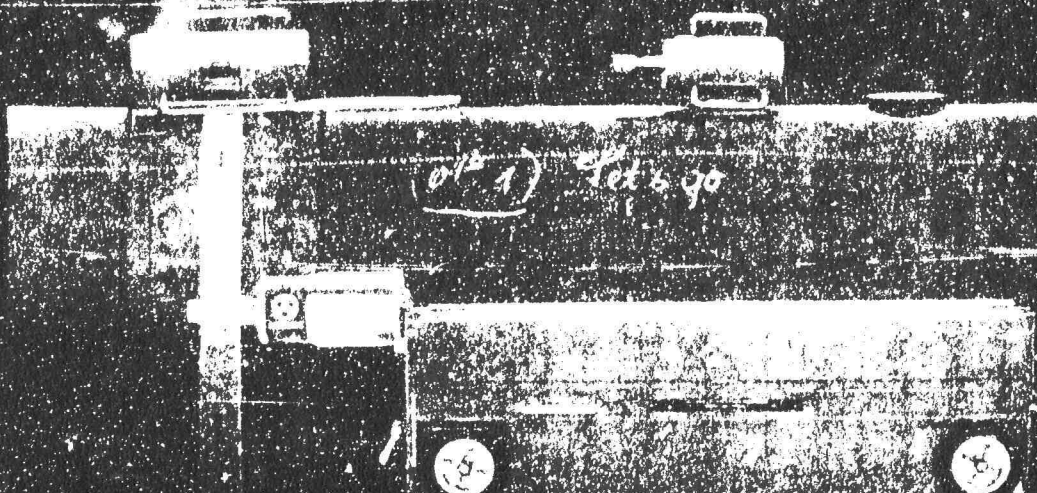
For pipe sizes from 6 inches to 18 inches.

Optimized shielding design, advanced materials and high technology electronics result in a light weight but robust device.

GAMMALUX M

Signals the location of the crawler and provides both a visual and audible warning during source exposure.

The Command unit accurately positions the Ir-192 source at the radiographic position.



GAMMAMAT M 18

For pipe sizes from 18 inches to 60 inches.

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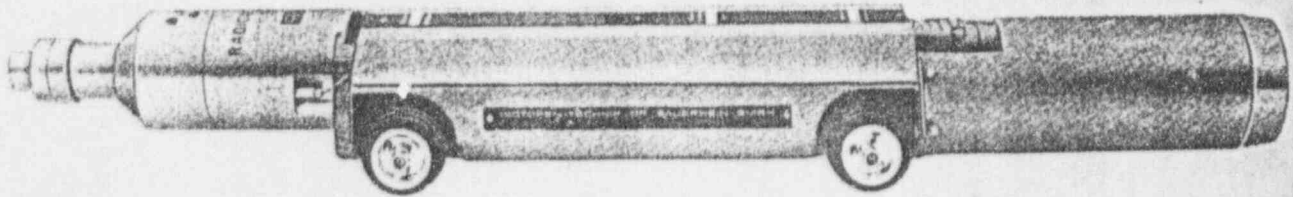


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