FC (3- 10	рям NRC-313 I 80) с F я 30	U.S. NUCLEAR REGULATOR	Y COMMISSION	I. APPLICATION FOR: (Check and/or complete as appropriate)
	APPLICATION FOR	R BYPRODUCT MATER	RIAL LICENSE	X . NEW LICENSE
See	eattached instructions for details.	anne a la companye a constant a co		6. AMENDMENT TO
Con Offi Wasi 171	npleted applications are filed in o ce of Nuclear Material Safety, a hington, DC 20555 or applicatio 7 H Street, NW, Washington, D.	duplicate with the Division of nd Safeguards, U.S. Nuclear R ins may be filed in person at t C. or 7915 Eastern Avenue, S	Fuel Cycle and Material Safety, legulatory Commission, the Commission's office at Silver Spring, Maryland.	c. RENEWAL OF: LICENSE NUMBER
2. A	PPLICANT'S NAME (Institution,	firm, parson, etc.)	3. NAME AND TITLE OF PERS REGARDING THIS APPLICA	SON TO BE CONTACTED
Ma	agnetic Periphera	ls, Inc.	Phillip J. H	Radtke
TE 61	LEPHONE NUMBER: AREA CO	DE - NUMBER EXTENSION	TELEPHONE NUMBER: ARE	A CODE - NUMBER EXTENSION
4. A. (A) st	PPLICANT'S MAILING ADDRES ddress to which NRC corresponde would be sent.)	S (Include Zip Code) Ince, notices, builetins, etc.,	5. STREET ADDRESS WHERE (Include Zip Code)	LICENSED MATERIAL WILL BE US
78	301 Computer Ave.		7801 Compute	er Ave.
Mi	nneapolis, Mn. 5	5435	Minneapolis,	Mn. 55435
	(IF MORE SPACE IS	NEEDED FOR ANY ITEN	, USE ADDITIONAL PROPERI	LY KEYED PAGES.)
5. 11	VDIVIDUAL(S) WHO WILL U See Items 16 and 17 for required t	JSE OR DIRECTLY SUPER raining and experience of each i	RVISE THE USE OF LICENSED	MATERIAL
	FULLN	AME		TITLE
		en beneren er en		Anno constructiva de la cale de la
a. F	hillip Radtke		Assoc. Scientist	- Supervisor
b. F	Roger Bass		Assoc. Scientist	:
c. I	orrayne Conrad		Technician	
7. R.	ADIATION PROTECTION OFFIC hillip Radtke	ER	Attach a resume of person's training 16 and 17 and describe his response.	ng and experience as outlined in Items sibilities under Item 15.
	and here is an an an an and make an	8. LICENSI	ED MATERIAL	enter en
L I N E	ELEMENT AND MASS NUMBER	CHEMICAL AND/OR PHYSICAL FORM	NAME OF MANUFACTURER AND MODEL NUMBER (11 Sealed Source)	MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTI VITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIM
NO.	A	B	С	D
1)	Nickel 63	Distod Dart	Hewlett-Packard	2 detectors,
(2)	NICKEL 05	Fidley Fail	detector number	detector
(3)			Source number	
(4)	- 76		and the set of the set	
		DESCRIBE USE OF	LICENSED MATERIAL	-k
(1)	Electron capture	detector for a	as chromatography	using Hewlett-
and the second second	The second s	A DESCRIPTION OF A		

FORM NRC-313 (3-80)

	ny mantana ara dinana manana minaka atao ka agata	9.	STORAGE OF	SEALED SOURCE	S	
L-NEO.	CONTAINER AND/ SOURCE WILL BES	OR DEVICE IN WHICH EA	ACH SEALED	NAME OF M	B.	MODEL NUMBER
1)	Gas chroma	tograph for 1	aboratory	Newlett-1	Packard	5880A
2)	analysis					*
3)						
4)					ENTE	
		10. RAI	DIATION DETE	CITON INS. HUM	RADIATION	SENSITIVITY
L-ZWO.	TYPE OF INSTRUMENT	NAME	NUMBER	AVAILABLE	DETECTED (alpha, beta, gemma, neutron) E	RANGE (milliroentgens/hour or counts/minute) F
1)	None requi	ired with this	instrume	int		
2)						
3)						
4)						
		11. CALIBRA	ATION OF INST	RUMENTS LISTE	DINITEM 10	nan yan yan ang ang ang ang ang ang ang ang ang a
	None requ.	ired with this	5			
	Instri Instri	12. PEF	SONNEL MON	ITORING DEVICE SUPPLIER (Service Company)	S	EXCHANGE FREQUENC
	Check and/or complete (Check and/or complete A) FILM BADGE	12. PER 12. PER te as appropriate.) None require	RSONNEL MON	ITORING DEVICE SUPPLIER (Service Company) 8	ent	EXCHANGE FREQUENC
	IN FILM BADGE	12. PER 12. PER te as appropriate.) None require CENCE	RSONNEL MON	ITORING DEVICE SUPPLIER (Service Company) 8	nent	MONTHLY
	IN FILM BADGE (Check and/or comple A 1) FILM BADGE 2) THERMOLUMINES DOSIMETER (TLD) 3) OTHER (Specify): _	12. PER 12. PER te as appropriate.) None require CENCE	asonnel Mon	ITORING DEVICE SUPPLIER (Service Company) 8	ent	EXCHANGE FREQUENC C MONTHLY OUARTERLY OTHER (Specify):
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	IN FILM BADGE (Check and/or comple A) FILM BADGE 2) THERMOLUMINES DOSIMETER (TLD) 3) OTHER (Specify): 13. FACILITIES	12. PER 12. PER te as appropriate.) None require CENCE AND EQUIPMENT (C	asonnel Mon ed with the	ITORING DEVICE SUPPLIER (Service Company) B nis instrum	ent notated sketch(es)	EXCHANGE FREQUENC C MONTHLY OUARTERLY OTHER (Specify):
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	INDRE FEQU Instru TYPE (Check and/or comple A I) FILM BADGE I) FILM BADGE I) THERMOLUMINES DOSIMETER (TLD) I) OTHER (Specify): I) OTHER (Specify): I) OTHER (Specify): II STORAGE FACILITIES LABORATORY FA LABORATORY FA STORAGE FACILITIES LABORATORY PR AME OF COMMERCIAL NAME OF COMMERCIAL WAS E USED FOR DISPOS HE APPLICATION IS turn unusab Ondale, Pa. d/or suppli	12. FER 12. FER 12. FER 12. FER 14. as appropriate.) None require CENCE AND EQUIPMENT (CH CILITIES, PLANT FACIL TIES, CONTAINERS, SPEN NG TOOLS OR EQUIPMENT, OTECTIVE EQUIPMENT, AL WASTE DISPOSAL SE 1ed throuch m TE DISPOSAL SERVICE I ING OF RADIOACTIVE W FOR SEALED SOURCES 19311. Cell er. User sha	ASONNEL MON ad with th heck were appro- ITIES, FUME HO CIAL SHIELDING NT, ETC. ETC. 14. WAST RVICE EMPLOYE AND DEVICES AND S NOT EMPLOYE VASTES AND EST AND DEVICES AND to suppli disassemb 11 read a	ITORING DEVICE SUPPLIER (Service Company) B nis instrum priate and attach at ODS (Include filtration (fixed and/or tempole (fixed and/or tempole E DISPOSAL D ET D, SUBMIT A DETA IMATES OF THE TY ND THEY WILL BE F er, Hewlett ly and clear nd adhere t	notated sketch(es) i on, if any), ETC. rary), ETC. ILED DESCRIPTION OF RETURNED TO THE M C-Packard Co aning to be to the manuf	EXCHANGE FREQUENT C MONTHLY OUARTERLY OTHER (Specify): and description(s).

	INFORMATION REQUIRED F	OR ITEMS 15, 16 AND 17
Describe separate	e in detail the information required for Items 15, 1 page and key to the application as follows:	16 and 17. Begin each item on a
15.	RADIATION PROTECTION PROGRAM. Describ the material to be used including the duties and control measures, bioassay procedures <i>(if needed)</i> , etc. If the application is for sealed source's also sub performed using a leak test kit, specify manufacture	be the radiation protection program as appropriate for responsibilities of the Radiation Protection Officer, day-to-day general safety instruction to be followed, omit leak testing procedures, or if leak testing will be r and model number of the leak test kit.
16.	FORMAL TRAINING IN RADIATION SAFETY. Items 6 and 7. Describe individual's formal trainin the name of person or institution providing the t received, etc.	Attach a resume for each individual named in ng in the following areas where applicable. Include training, duration of training, when training was
	e. Principles and practices of radiation protection.	
	<ul> <li>Badioactivity measurement standardization and techniques and instruments.</li> </ul>	monitoring
	c. Mathematics and calculations basic to the use radioactivity.	and measurement of
17.	<ul> <li>d. Biological effects of radiation.</li> <li>EXPERIENCE. Attach a resume for each individ</li> </ul>	• fual named in Items 6 and 7. Describe individual's
17.	d. Biological effects of radiation. EXPERIENCE. Attach a resume for each individ work experience with radiation, including where e the-job training should be commensurate with the maximum activity of each used.	aual named in Items 6 and 7. Describe individual's experience was obtained. Work experience or on- e proposed use. Include list of radioisotopes and
17.	d. Biological effects of radiation. EXPERIENCE. Attach a resume for each individ work experience with radiation, including where e the-job training should be commensurate with the maximum activity of each used. 18. CERTIF	fual named in Items 6 and 7. Describe individual's experience was obtained. Work experience or on- e proposed use. Include list of radioisotopes and FICATE
17.	<ul> <li>d. Biological effects of radiation.</li> <li>EXPERIENCE. Attach a resume for each individ work experience with radiation, including where e the-job training should be commensurate with the maximum activity of each used.</li> <li>18. CERTIN (This item must be composited)</li> </ul>	fual named in Items 6 and 7. Describe individual's experience was obtained. Work experience or on- e proposed use. Include list of radioisotopes and FICATE
17.	d. Biological effects of radiation. EXPERIENCE. Attach a resume for each individ work experience with radiation, including where e the job training should be commensurate with the maximum activity of each used. 18. CERTING (This item must be commensurate be commensurated by the item must	Aual named in Items 6 and 7. Describe individual's experience was obtained. Work experience or on- e proposed use. Include list of radioisotopes and FICATE mpleted by applicant) cate on behalf of the applicant named in Item 2, ty with Title 10, Code of Federal Regulations, including any supplements atteched hereto, is true of.
17. WARNIN Spresente	d. Biological effects of radiation. EXPERIENCE. Attach a resume for each individ work experience with radiation, including where e the-job training should be commensurate with the maximum activity of each used. 18. CERTING (This item must be commensured by the commensurate with the maximum activity of each used) 18. CERTING (This item must be commensured by the commensurate with this application is prepared in conformite Part 30, and that all information contained herein, where and correct to the best of our knowledge and belief (This item must be commensured by the correct of the best of our knowledge and belief (This and correct to the best of our knowledge and belief) 1618 U.S.C., Section 1001: Act of June 25, 1948; 52 Stat. The application is any department or agency of the United States as to be any department or agency of the United States as to be applied on the any department or agency of the United States as to be applied on t	Aual named in Items 6 and 7. Describe individual's experience was obtained. Work experience or on- e proposed use. Include list of radioisotopes and FICATE Inpleted by applicant) cate on behalf of the applicant named in Item 2, ty with Title 10, Code of Federal Regulations, including any supplements atteched hereto, is true if. 749; makes it a criminal offense to make a willfully felse statement any matter within its jurisdiction.
17. WARNIN Boresente LICENSI (See Sec	d. Biological effects of radiation. EXPERIENCE. Attach a resume for each individ work experience with radiation, including where e the job training should be commensurate with the maximum activity of each used. 18. CERTIFIC (This item must be commensured by the commensurate with the maximum activity of each used. The applicant and any official executing this certific certify that this application is prepared in conformit Part 30, and that all information contained herein, and correct to the best of our knowledge and belief. IG18 U.S.C., Section 1001: Act of June 25, 1948; 62 Stat. Tation to any department or agency of the United States as to interval to any department or agency of the United States as to interval.	Aual named in Items 6 and 7. Describe individual's experience was obtained. Work experience or on-         a proposed use. Include list of radioisotopes and         FICATE         hpleted by applicant)         cate on behalf of the applicant named in Item 2, try with Title 10, Code of Federal Regulations, including any supplements attached hereto, is true if.         749; makes it a criminal offense to make a willfully felse statement any matter within its jurisdiction.         b. CERTIFYING OFFICIAL (Signature)         c. NAME (Type or print)         C. NAME (Type or print)
17. VÁRNINI presente LICENSI (See Sec	<ul> <li>d. Biological effects of radiation.</li> <li>EXPERIENCE. Attach a resume for each individ work experience with radiation, including where e the-job training should be commensurate with the maximum activity of each used.</li> <li>18. CERTIFIC (This item must be common the applicant and any official executing this certific certify that this application is prepared in conforming Part 30, and that all information contained herein, and correct to the best of our knowledge and beliet.</li> <li>IG18 U.S.C., Section 1001: Act of June 25, 1948; 62 Stat. Tation to any depertment or agency of the United States as to be for any depertment or agency of the United States as to be set of 170,31, 10 CFR 170).</li> <li>ISE FEE CATEGORY: 170.31 - 3L</li> </ul>	<ul> <li>Aual named in Items 6 and 7. Describe individual's experience was obtained. Work experience or one proposed use. Include list of radioisotopes and</li> <li>FICATE inpleted by applicant.</li> <li>FICATE inpleted by applicant)</li> <li>cate on behalf of the applicant named in Item 2, try with Title 10, Code of Federal Regulations, including any supplements atteched hereto, is true of.</li> <li>749; makes it a criminal offense to make a willfully false statement any matter within its jurisdiction.</li> <li>b. CERTIFYING OFFICIAL (Signature)</li> <li>c. NAME (Type or print)</li> <li>Phillip J. Radtke</li> <li>d. TITLE Associate Scientist Radiation Safety Office</li> </ul>

MAGNETIC PERIPHERALS INC.

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- #13. Facilities and Equipment
  - A. Laboratory facilities, plant facilities, fume hoods.

Detector effluent gas will be piped into a fume hood and vented in compliance with the latest revision of 10 CFR part 20.

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## #15 RADIATION PROTECTION PROGRAM

- Provide proper storage of and limit access to both on-line and reserve detectors.
- Provide measurement devices to monitor radiation levels to ensure their control below limits listed in Appendix B, 10 CFR part 20, during
  - a. normal operation
  - b. detector/column change
  - 6. detector cleaning
  - d. waste disposal (through manfuacturer)
  - e. shipment/receipt of materials to and from manufacturer
  - f. effluent gas disposal
- 3. Post signs in accordance with 20.203 & 20.204
- 4. Maintain records of level monitoring
- Perform leak test with Hewlett-Packard # 18713-60050
   leak test kit at six month intervals.

Radiation Safety Officer Shall:

- a. Institute and maintain above program in compliance with the latest revison of 10 CFR part 20.
- b. Instruct personnel in compliance with 10 CFR part 19 to ensure maximum safety and minimum exposure.
- C. Supervise monitoring of personnel, equipment and facilities, maintain all pertinent records and submit any necessary reports in accordance with 10 CFR part 19, 20.

GD a subsidiary of CORPORATION

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## #16 FORMAL TRAINING IN RADIATION SAFETY

1) Phillip J. Radtke

a) thru d) College physics including atomic and nuclear physics and quantum mechanics; 2½ yrs during 1966-1970. College mathematics including calculus, differential equations and linear analysis; 3½ yrs during 1966-1970. Wabash College, Crawfordsville, IN. Nuclear Disaster Training, one month during 1970-1974, USAF Security Service.

2) Roger A. Bass

a) thru d) Taught physics at St. Paul vocational school from 1972-1974. College level mathematics taught at St. Paul Technical Vocational Institute including calculus and differential equations from 1972-1974.

3) Lorrayne Conrad

a) thru d) Physics and Chemistry, Safety and Health in Industry, Metropolitan State University, 1978; Mathematics and calculations, Hennepin County Voc. Tech., 1975; Chemistry and Health, Chemistry and Modern Chemical Industrial Instruments, Hennepin County Voc. Tech., 1975-1978. Nuclear Disaster Training, USAF, 1944-1945. Organic Chemistry, Univ. of Minnesota, 1969.

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## #17 EXPERIENCE

1) Phillip J. Radtke

Laboratory experimentation and measurement with various sealed sources. Wabash College, Crawfordsville, IN during 1966-1970.

2) Roger A. Bass

Six yrs. experience using a Norelco X-ray diffraction unit. Four yrs. experience using a Cambridge Scanning Electron Microscope. In each case the instruments have been tested for exposure to harmful radiation by an outside agency, and the results to date have proven negative. Control Data Corp. 1974-1980.

3) Lorrayne Conrad

Three yrs. experience using the Micro-Derm, a beta-ray backscattering instrument. Four yrs. experience using an electron microscope. Some use of a hospital X-ray machine, 1945. Initiated testing of SEM, Norelco X-ray Diffraction unit, the Micro-Derm probes, and containers of rare earths and leaded coated chemicals for possible radiation.