

6 May 1998

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RADIOLOGIC HEALTH BRANCH
HEADQUARTERS
MAY 18 AM 11:37

Subject: **Request to Amend Licenses and to Modify SS&D Sheets:**

License No. 1663 (possession, service, SL distribution)
License No. 1856 (GL device distribution)
CA501D101B (Source 3 – 6)
CA501D102B (Source 9)
CA501D104B (Source 15)

Dear David:

We would like to amend the licenses and device registry sheets listed above to allow us to possess and distribute sealed sources and gauges containing Fe-55.

The details of the requested changes are given in this letter.

License No. 1663 (possession, service, SL distribution): We request that the current license (presently under timely renewal) and the renewal license be modified. Two items should be added to Conditions 6 – 8:

6. Radionuclide	7. Form	8. Possession limit
Fe-55	Sealed sources manufactured in accordance with a license issued by the U.S. Nuclear Regulatory Commission or Agreement State.	30 sources not to exceed 2 Ci each
Fe-55	Sealed sources (Amersham Model IEC.A1)	200 sources not to exceed 270 millicuries each

Corresponding items should be added to Condition 9, "Authorized Use". These added items should specify that:

- the generic Fe-55 sources are – ***To be used for research and development of gauging devices as defined in 17 CCR 30100, and for transfer to Specific Licensees of the United States Nuclear Regulatory Commission or Agreement States for prototype testing.***
- the Amersham Model IEC.A1 sources are - ***To be used for manufacture, demonstration, installation, testing, maintenance and repair of Honeywell-Measurex gauging devices and for distribution of Honeywell-Measurex gauging devices to Specific Licensees of the United States Nuclear Regulatory Commission or Agreement States.***

We will insure that all our existing license and regulatory commitments (security, checks of physical inventory, leak testing, etc.) are satisfied for the additional Fe-55 sources we will obtain.

License No. 1856 (GL device distribution): We request that the current license be modified. One item should be added to Conditions 6 – 8:

6. Radionuclide	7. Form	8. Possession limit
Fe-55	<i>Sealed sources (Amersham Model IEC.A1)</i>	<i>Not applicable</i>

Under Condition 11, the table should be modified to include Fe-55 for all of the sensor series except the 4202 Series and the Ohmart Model BAL:

Gauge Model	Nuclide	Sealed Source, Manufacturer and Model	Source Assembly	Maximum Activity
Add to all series, <u>except</u> for 4202 Series and Ohmart BAL	Fe-55	<i>Amersham Corp. Model IEC.A1</i>	<i>II, III, IV, VI 9 15</i>	<i>270 millicuries</i>

Again, we will insure that all our existing license commitments regarding transfers to Generally Licensed customers (e.g. reports, information provided to recipients, etc.) continue to be satisfied when we begin distributing these Fe-55 sensors.

Registry Sheets [CA501D101B (Source 3 – 6), CA501D102B (Source 9), CA501D104B (Source 15)]:

Our apologies for already requesting modifications to the recently-issued Model 4203 registry sheets, but the plan to use Fe-55 was just announced.

To each of the three registry sheets listed above, please add in Fe-55 (as described in table in previous section). On the first page of each registry, Fe-55 should be added to the list of sources that require leak testing at six-month intervals. The first sentence under the heading "Description" should be modified and another added, to read:

Most devices in this series use the attenuation of beta XXXX radiation emitted from the sealed radioactive source to measure the thickness of a sheet product. ***Some of the Fe-55 gauges in this series use x-ray fluorescence to measure and correct the standard weight per unit area ("thickness") measurement of a sheet product for errors due to the mineral (or other relatively high atomic number) components. When used in this corrector-mode, the Fe-55 sensor will generally be in combination with a beta sensor.***

In the above paragraph, text should be inserted in place of XXXX as shown:

Applicable registry	Source holder	Insert in place of XXXX
CA501D101B	Source 3 – 6	<i>(Kr-85, Pm-147, Sr-90, Ru-106) or photon (Am-241, Fe-55)</i>
CA501D102B	Source 9	<i>(Kr-85, Pm-147) or photon (Fe-55)</i>
CA501D104B	Source 15	<i>(Kr-85, Pm-147, Sr-90) or photon (Am-241, Fe-55)</i>

For the CA501D104B (Source 15) registry, the table on Page 6 will also need to be modified to add:

Manufacturer	Model	ANSI Classification
<i>Amersham Corp.</i>	<i>IEC.A1</i>	<i>77C33232</i>

Under "LIMITATIONS AND/OR OTHER CONSIDERATIONS OF USE" for all three registry sheets, Fe-55 should be included in the list of radionuclides requiring leak tests.

We will insure that all our existing commitments (maximum dose rates, labeling, etc.) continue to be satisfied for the Fe-55 sensors.

We also request one further change, unrelated to the addition of Fe-55, to the CA501D104B (Source 15) registry. Under the "Description" section on Page 2, please delete the last line of the second paragraph, which states:

The maximum gap between the two gauge heads will be 5.08 cm (2").

In place of the deleted sentence, please insert a table of gaps by radionuclide and also wording as shown below:

Radionuclide	Max. Height Gap
Kr-85	10 cm (4 in.)
Sr-90	10 cm (4 in.)
Pm-147	10 cm (4 in.)
Am-241	51 cm (20 in.)
Fe-55	10 cm (4 in.)

Gauges with gaps in excess of 10 cm (4 in.) are considered to be wide gap sensors (consistent with ANSI N538: "Classification of Industrial Ionizing Radiation Gauging Devices"). Wide gap gauges are provided with an enclosure where the gauge heads will be parked when not making on-sheet measurements. This enclosure is to prevent access to the measurement gap.

We will insure that regardless of the gap size, all Model 4203 gauges continue to comply with the dose rate limits and the ANSI classification stated in the present CA501D104B (Source 15) registry.

If you require additional information to complete your review, please contact me. I can be reached at (408) 864-7860 (menu choice 4) or via e-mail at elsa.nimmo@hmx.honeywell.com.

Sincerely,
HONEYWELL-MEASUREX CORPORATION



Elsa Nimmo
Radiation Safety Officer

CC: Brendan Brady – 4101
John Goss - 1122
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Radiation Safety Staff
Radiation Safety Committee