WHAT IS CLAIMED IS:

1. A radiography imaging system for generating images of a pipe assembly, the pipe assembly including at least one of a pipe, tubing, and a weld, said radiography imaging system comprising:

a radiation source for emitting rays, said radiation source comprising a radioactive isotope having an activity level between 1 Curie and 40 Curies, said radiation source positioned adjacent a portion of the pipe assembly; and

a detector positioned opposite said radiation source, the portion of the pipe assembly positioned between said radiation source and said detector such that the rays interact with the portion of the pipe assembly and strike said detector, said detector comprising:

an imaging plate that is activated by illumination with the rays with an exposure between 0.5 Curie-minute and 5 Curie-minutes of radiation, said imaging plate having a thickness between 5 millimeters (mm) and 15 mm; and

an imaging unit for generating images based on information from said imaging plate, said imaging unit having a pixel pitch that is between 25 microns and 100 microns.

2. The radiography imaging system in accordance with Claim 1, further comprising a processor coupled to said detector to facilitate processing the images.

3. The radiography imaging system in accordance with Claim 1, wherein said rays have an activity level between 100 kiloelectron-volts (keV) and 500 keV.

4. The radiography imaging system in accordance with Claim 3, wherein said imaging unit has a pixel pitch of approximately 50 microns.

5. The radiography imaging system in accordance with Claim 4, wherein said imaging unit generates an image having an area of 50.8mm x 101.6mm (2 inches (in.) x 4 in).

6. The radiography imaging system in accordance with Claim 4, wherein said radioactive isotope has an activity level of 1 Curie.

7. The radiography imaging system in accordance with Claim 6, wherein said radiation source further comprises a close proximity container, said close proximity container comprising a sidewall and a shutter, said sidewall defining an opening therethrough and an interior space, said radioactive isotope positioned in said interior space, said shutter configured to be retractable about the opening between a closed position where rays are inhibited from moving through said opening and an open position where rays are directed through said opening towards said pipe portion and said detector.

8. The radiography imaging system in accordance with Claim 7, wherein the radiation source further comprises a guide tube coupled to said close proximity container, said guide tube having a length of 152 mm.

9. The radiography imaging system in accordance with Claim 1, wherein said detector further comprises an electronics component and a flex casing, said flex casing comprising a detector enclosure, an electronics enclosure, and a coupling extending between said detector enclosure and said electronics enclosure.

10. A pipe assembly manufacturing facility for assembling a plurality of pipe assemblies, said pipe assembly manufacturing facility comprising:

at least one assembly area for assembling the plurality of pipe assemblies;

a radiography imaging system for generating images of the plurality of pipe assemblies, said radiography imaging system comprising:

a radiation source for emitting rays, said radiation source positioned adjacent at least one pipe assembly of the plurality of pipe assemblies, said radiation source comprising a radioactive isotope having an activity level between 1 Curie and 40 Curies;

a detector positioned opposite said radiation source, a portion of the at least

one pipe assembly of the plurality of pipe assemblies positioned between said radiation source and said detector such that the rays interact with the portion of the at least one pipe assembly and strike said detector, said detector comprising:

an imaging plate that is activated by illumination with the rays with an exposure between 0.5 curie-minute and 5 Curie-minutes of radiation, said imaging plate having a thickness between 5 millimeters (mm) and 15 mm; and

an imaging unit for generating images based on information from said imaging plate, said imaging unit having a pixel pitch that is between 25 microns and 100 microns; and

at least one inspection area for inspecting the at least one pipe assembly of the plurality of pipe assemblies using said radiography imaging system, said at least one inspection area contiguous with said at least one assembly area, wherein the at least one pipe assembly remains in said at least one inspection area during operation of said radiography imaging system.

11. The pipe assembly manufacturing facility in accordance with Claim 10,further comprising barricades positioned around the at least one inspection area to separate the at least one inspection area from the at least one assembly area and inhibit personnel in the at least one assembly area from entering the at least one inspection area.

12. A method of imaging a pipe assembly using a radiography imaging system, the radiography imaging system including a radiation source and a detector, the radiation source including a radioactive isotope, said method comprising:

mounting the radiography imaging system on the pipe assembly such that a portion of the pipe assembly is positioned between the radiation source and the detector;

emitting rays from the radiation source such that the rays interact with the pipe assembly and strike the detector, the radioactive isotope having an activity level between 1 Curie and 40 Curies;

illuminating the pipe assembly with the rays with an exposure between 0.5 Curie-minute and 5 Curie-minutes of radiation;

activating an imaging plate of the detector with the rays; and

generating an image of the pipe assembly.

13. The method in accordance with Claim 12, wherein emitting rays comprises emitting gamma rays from the radioactive isotope, the gamma rays having an activity level between 100 kiloelectron-volts (keV) and 500 keV.

14. The method in accordance with Claim 12, wherein generating an image comprises generating an image having an area of 50.8mm x 101.6mm (2 inches (in.) x 4 in).

15. The method in accordance with Claim 14, wherein generating an image of the pipe assembly comprises generating an image of the pipe assembly using an imaging unit having a pixel pitch that is approximately 50 microns.

16. The method in accordance with Claim 15, wherein activating the imaging plate comprises activating the imaging plate having a thickness between 5 millimeters (mm) and 15 mm.

17. The method in accordance with Claim 12 further comprising inspecting the image to determine characteristics of at least one of a pipe, tubing, and weld on the pipe assembly.

18. The method in accordance with Claim 12 further comprising maintaining the activity level of the radiation source at 1 Curie.

19. The method in accordance with Claim 18, wherein the radiation source includes a close proximity container including a wall, a pellet, and a shutter, the wall defining an opening therethrough and an interior space, the pellet positioned in the interior space, the shutter configured to be retractable about the opening between a closed position closing the

opening and an open position, the method further comprising retracting the shutter to direct rays towards the detector.

20. The method in accordance with Claim 19 further comprising directing the pellet through a guide tube and into the interior space of the close proximity container.