

PB 1 Program Description

Comment

This is a proposed revision to NUREG 1801 (GALL). It covers pipes and tanks other than steel and includes all pipe and tank materials.

Staff Response

PB 2 Program Description

Comment

This is a proposed revision to NUREG 1801 (GALL). It covers tanks and pipes that may contain radioactive liquids in excess of EPA drinking water limits

Staff Response

PB 3 Program Description

Comment

This is a proposed revision to NUREG 1801 (GALL). It covers buried portions of partially piping systems and partially buried tanks such as CST, Waste tanks, RWST's Spent Fuel Pools, fuel transfer canals, refueling cavities and containments and drywells.

Staff Response

PB 4 Program Description

Comment

What is the regulatory authority of a NUREG?

Staff Response

PB 5 Program Description

Comment

Will this AMP be applicable for those plants that have received an extended license? Brian Holian confirmed during this meeting this AMP will this be

applicable to plants presently under review. Can the NRC take any enforcement action if a licensee fails to meet the guidance of this NUREG?

Staff Response

PB 6 Program Description

Comment

Other sites such as Indian Point contain (3) 700# natural gas lines ranging in size from 26 to 30 inches in diameter. Are the natural gas pipes buried on the Indian Point site pipes covered by this proposed program?

Staff Response

PB 7 Program Description

Comment

Are there sites other than IP that have pipes containing hazardous materials not under the direct control of the licensee?

Staff Response

PB 8 Program Description

Comment

Does this program apply to service water systems where the majority of the piping is buried.

Staff Response

PB 9 Program Description

Comment

At least two plants, in response to GL 89-13 have excluded the buried portions of the SW systems and the NRC has accepted these positions.

Staff Response

PB 10 Program Description

Comment

XI.M20 only requires inspection of "lined or coated" SW pipes. (See Seabrook LRA) Will this AMP supercede M20?

Staff Response

PB 11 Program Description

Comment

Review of responses and many LRAs, there are no requirements for internal and/or external inspections of the SW piping systems and branch lines. Which AMP assures the integrity of the SW systems in all nuclear plants?

Staff Response

PB 12 Program Description

Comment

What are the specific requirements for the inspections of buried SW systems that have experienced numerous internal corrosion failures and in some cases, required the replacement of the majority of service water piping.

Staff Response

PB 13 Program Description

Comment

From my years at Millstone, Indian Point and Maine Yankee, Connecticut Yankee and recent tritium leaks at Vermont Yankee I recall numerous internal failures of piping systems within the scope of 10 CFR 54.4. or containing HAZMAT as defined within.

Staff Response

PB 14 Program Description

Comment

The environment and chemistry on the external surfaces remains fairly stable however the internal surfaces are exposed to a wide range of temperature and chemistry. (i.e. service water), potentially more destructive than the external environments.

Staff Response

PB 15 Program Description

Comment

MIC is one form of severe internal corrosion that has internally degraded many nuclear piping systems yet this is not being addressed in this program.

Staff Response

PB 16 Program Description

Comment

There have been numerous reported failures of internal coatings of nuclear plant systems and internal erosion and cracking.

Staff Response

PB 17 Program Description

Comment

Why are these failure mechanisms not addressed in this proposed program?

Staff Response

PB 18 Program Description

Comment

This program must be modified to address internal corrosion which is the most common failure mechanisms

Staff Response

PB 19 Program Description, paragraph 2

Comment

Is cathodic protection required by any NRC regulation?

Staff Response

PB 20 Program Description, paragraph 2

Comment

Will the NRC require CP for buried pipes?

Staff Response

PB 21 Program Description, paragraph 2

Comment

How does the NRC plan to verify that present backfill meets the requirements of this proposed AMP?

Staff Response

PB 22 Program Description, paragraph 2

Comment

See RCA report for Indian Point pipe failure of February 2009 where the cause was attributed to backfill.

Staff Response

PB 23 Program Description, paragraph 2

Comment

Term not defined. Does this mean the pipes will only be inspected after failure?
[Staff note: term to which reference is made is opportunistic inspections]

Staff Response

PB 24 Program Description, paragraph 2

Comment

Are there other "Opportunistic" opportunities other than actual pipe failures or leaks?

Staff Response

PB 25 Program Description, paragraph 2

Comment

This provides the appearance to mislead the public.

Staff Response

PB 26 Program Description, paragraph 3

Comment

Do any of these programs assure the actual integrity of the pipes and tanks?

Staff Response

PB 27 Program Description, paragraph 3

Comment

If M41 replaces M20, please clearly state this.

Staff Response

PB 28 Program Description, paragraph 3

Comment

These programs appear to be intended to reduce corrosion rather than detect degradation.

Staff Response

PB 29 Program Description, paragraph 4

Comment

It is assumed that the definition will include pipes and tanks that are not completely buried, For example some piping systems are above ground however the buried pipes will be inspected.

Staff Response

PB 30 Program Description, paragraph 4

Comment

It is assumed the same will apply to partially buried tanks, including the CST, RWST, Waste Tanks, SFP, Drywell and containments which are tanks partially buried, within the scope of 10 CFR 54.4, and contain levels of activity in excess of EPA drinking water limits.

Staff Response

PB 31 Scope of Program

Comment

Many tanks such as the CST and the RWST are in contact with sand, concrete or soil but are only partially buried. It is not clear if these tanks are within the scope of this proposed program.

Staff Response

PB 32 Scope of Program

Comment

Many internal failures of tanks have been reported over the past 30 years. How would these failure be detected by this proposed program. (VY CST and the CY RWST have experienced internal failures)

Staff Response

PB 33 Scope of Program

Comment

The spent fuel pool and the contaminants are "tanks" meeting the requirements of the above definition in that it is encased in concrete and/or soil and at many reactors, is below the surface of the ground. The same is true for the Spent Fuel Pool.

Staff Response

PB 34 Scope of Program

Comment

How does the NRC expect the licensee to inspect "bolting" of valves and flanges of buried pipes without any periodic external visual inspections?

Staff Response

PB 35 Scope of Program

Comment

A logical conclusion is that it is likely that external bolting of buried pipes will never be inspected during the entire 60 years of plant operation.

Staff Response

PB 36 Scope of Program

Comment

How is piping integrity assured in the event of a common mode event such as an earthquake?

Staff Response

PB 37 Preventive Actions, paragraph a.ii

Comment

My concern is the structural integrity of these pipes. Please explain how any flow test verifies the integrity of these pipes?

Staff Response

PB 38 Preventive Actions, Table 2a footnote 2

Comment

How will the NRC assure that these backfill and cathodic protections measures are implemented or verified?

Staff Response

PB 39 Preventive Actions, Table 2a footnote 2

Comment

Will the NRC require any type of physical verification?

Staff Response

PB 40 Preventive Actions, Table 2a footnote 4

Comment

Does this infer that all metallic pipes have or are required to have cathodic protection unless the following conditions are met?

Staff Response

PB 41 Preventive Actions, Table 2a footnote 4

Comment

Will the NRC require cathodic protection be added to protect these pipes?

Staff Response

PB 42 Preventive Actions, Table 2a footnote 5

Comment

Are the presently operating plants in compliance with this standard? If not will they be required to backfit or verified to meet these requirements?

Staff Response

PB 43 Preventive Actions, Table 2a footnote 5

Comment

See IP-2 RCA for CST line failure of February 2009.

Staff Response

PB 44 Preventive Actions, Table 2b

Comment

Are there any preventative measures for internal corrosion control such as epoxy or concrete. If the pipes are lined are there any requirements to inspect the integrity of the internal lining or coatings?

Staff Response

PB 45 Preventive Actions, Table 2b

Comment

Other materials such as monel, bronze, etc. are commonly used in nuclear plants. Are these materials covered by this program?

Staff Response

PB 46 Detection of Aging Effects, paragraph a.i

Comment

What if they never become accessible for any reason? Is this OK? [Staff note: This comment refers to the opportunistic inspections section of the document and specifically to the statement "whenever they become accessible for any reason".]

Staff Response

PB 47 Detection of Aging Effects, paragraph a.i

Comment

Wall thickness and integrity must be periodically verified. [Staff note: This comment refers to the opportunistic inspections section of the document.]

Staff Response

PB 48 Detection of Aging Effects, Table 4a, footnote 3

Comment

This is very confusing. If a service water system contains 10,000 feet of buried pipes, how many feet of pipe will be excavated and inspected?

Staff Response

PB 49 Detection of Aging Effects, Table 4a, footnote 3

Comment

Will every branch line be inspected?

Staff Response

PB 50 Detection of Aging Effects, Table 4a, footnote 5

Comment

Insert "and tanks" [Staff note: The section of the document to which this comment refers Table 4a which is titled "Inspections of Buried Pipe.]

Staff Response

PB 51 Detection of Aging Effects, paragraph c.viii

Comment

As I understand this technology it is an unproven method to assure the structural integrity of buried pipes. [Staff note: This comment refers to "guided wave ultrasonic" inspection.]

Staff Response

PB 52 Detection of Aging Effects, paragraph c.viii

Comment

The word "encouraged" is meaningless in a regulatory environment and obligates a licensee to nothing.

Staff Response

PB 53 Detection of Aging Effects, paragraph c.ix

Comment

A flow test is not able to detect either internal or external degradation of pipes.

Staff Response

PB 54 Detection of Aging Effects, paragraph c.ix

Comment

A fire mail could experience severe degradation not detected by a flow test and fail as a result of an earthquake when it is most likely needed.

Staff Response

PB 55 Detection of Aging Effects, paragraph c.x.a

Comment

Subpart H of 49 CFR 196 for corrosion control and other applicable parts of 49 CFR 195 must be included.

Staff Response

PB 56 Detection of Aging Effects, paragraph c.x.a

Comment

49 CFR 195 only applies to steel pipes. Will this testing apply to all pipes?

Staff Response

PB 57 Detection of Aging Effects, paragraph d

Comment

Need a very clear definition for "buried tanks"

Staff Response

PB 58 Operating Experience, paragraphs b – f

Comment

A comprehensive listing of pipe failures due to internal corrosion and degradation should also be provided.

Staff Response

PB 59 Operating Experience, paragraphs b – f

Comment

Provide a listing of only external corrosion failures leads to a inference that pipes do not degrade do to internal mechanisms

Staff Response

PB 60 References

Comment

Is it possible to obtain a copy of these standards from the NRC? [Staff note: This comment refers to NACE Standard Practice SP0169-2007.]

Staff Response

PB 61 References

Comment

[Staff note: Without making a specific comment, the commenter highlighted several standard produced by NACE, NFPA, ATSM and ASME. As in the previous comment, it is assumed that the commenter would like to obtain these standards from the NRC]

Staff Response