



PAG Manual

What is it and why?

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First, what is a PAG?

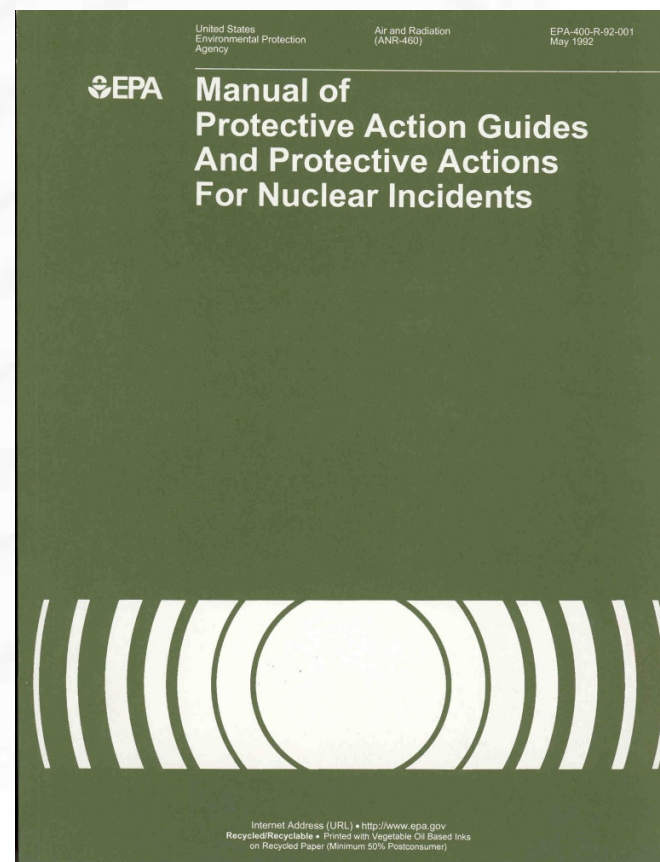
- Protective Action Guide or PAG = a radiation dose to avoid by taking protective actions:
 - ✓ evacuation, sheltering, food embargo or alternative water, removing contamination
- Non-regulatory guidance crafted by interagency group of radiation emergency experts
- Implemented by
 - ✓ State radiation & emergency management groups
 - ✓ Nuclear power plants
 - ✓ Military, research & medical facilities

Why PAGs?

- Radiation emergencies are rare
- Nuclear power -
 - Chernobyl
 - Three Mile Island
 - Fukushima
- Terrorism - like a dirty bomb or non-state nuclear detonation
- For emergency plans, where do we draw the line ~ ~ where a PAG dose might be predicted

PAGs Manual

- 1960s fallout guidance refined in 1975 & 1980
- Protective Action Guides (PAGs) Manual (1992)
 - ✓ Guidance for Action in Nuclear Emergencies
 - ✓ Early, Intermediate Phases only
 - ✓ Promised Water and Late Phase (Recovery) PAGs

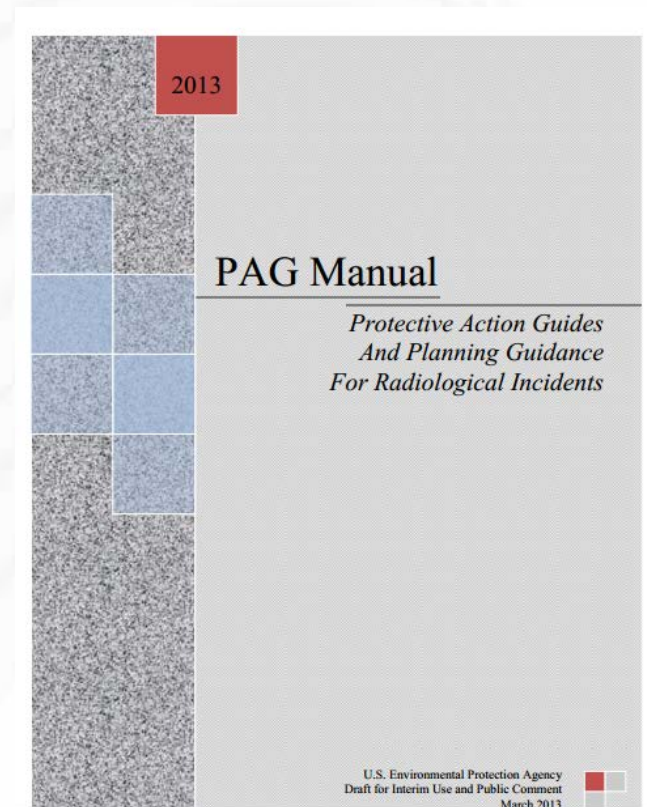


When Do PAGs Apply?

- Not for radioactively contaminated sites
- Releases, incidents, or accidents
- Public protection is the focus
- Guidance, not regulatory
- This is not CERCLA or Superfund
- Avoided dose \neq safe limit to allow

Proposed Revision of PAG Manual

- Clarified the use of PAGs for all radiological incidents, including terrorism
- Requested input on drinking water guidance
- Refers to FDA 'KI' & food guidance
- Includes guidance for long-term site restoration
- Updates dosimetry



Summary of Comments

- ~5,000 comments received. Changes we made include:
 - ✓ Clarifications and consistent terminology
 - ✓ Additional explanation to better describe how the PAGs were set originally
 - ✓ Describing how conservative PAGs levels are
 - ✓ Further emphasizing how environmental standards are not changing because of this guidance
- Though some guidance is beyond the PAGs
 - ✓ Exactly how clean is clean
 - ✓ Concern about responsibility/capacity for waste

Drinking Water PAG

- Proposed 2-tier guide to prioritize alternate water in an emergency
- Does not affect everyday drinking water standards
- EPA hopes to finalize the drinking water proposal and include it in Intermediate Phase chapter of PAG Manual – currently in OMB review



Next Steps

- OMB review concluded
- Plans to facilitate implementation:
 - ✓ Anticipate one year to incorporate into local/state plans
 - ✓ Training opportunities through webinars & conferences
- For more information
 - ✓ See our web page at <https://www.epa.gov/radiation/protective-action-guides-pags>

