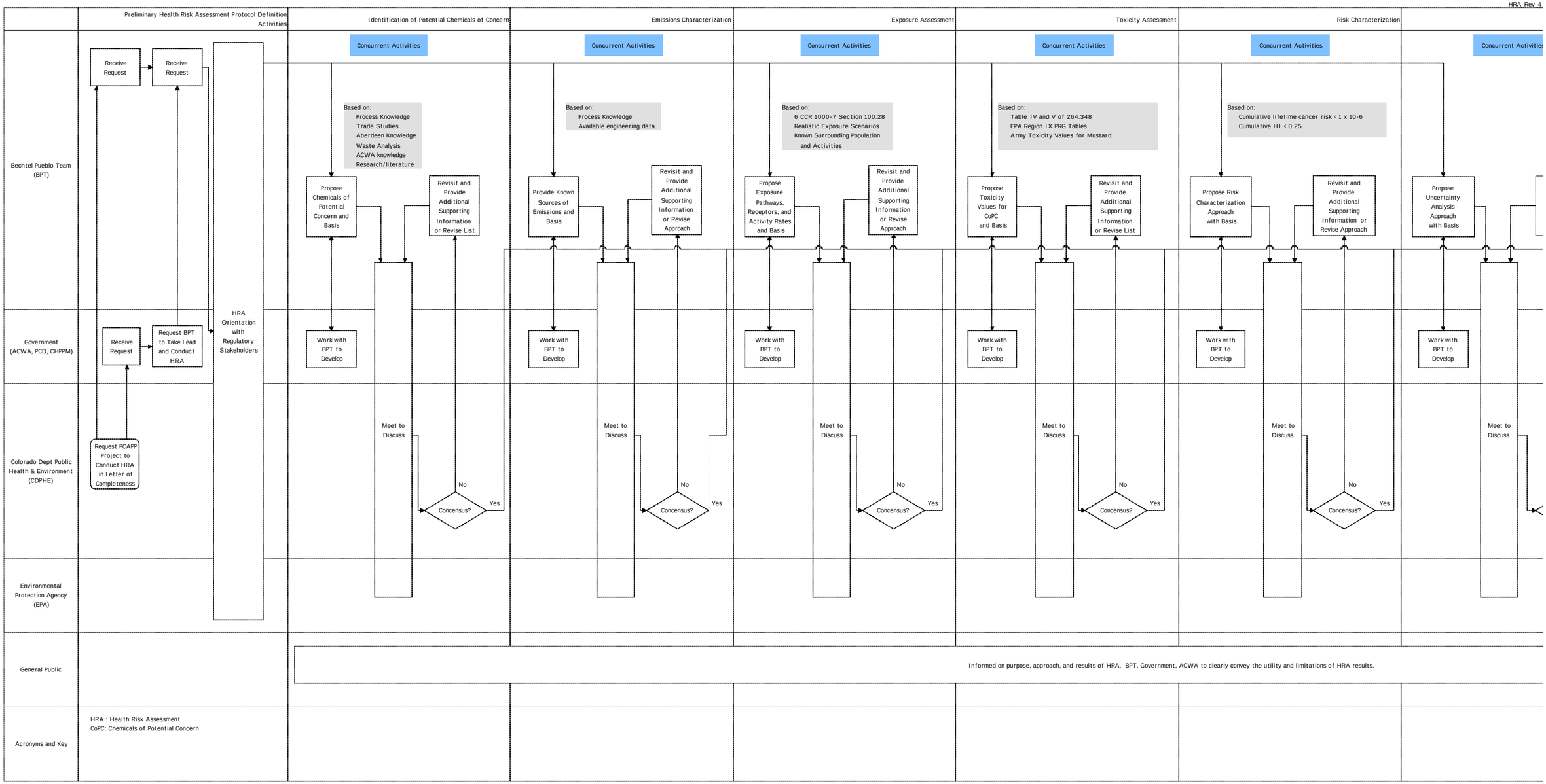
Preliminary Health Risk Assessment Protocol Definition Activities
Identification of Potential Chemicals of Concern
Emissions Characterization
Exposure Assessment
Toxicity Assessment
Risk Characterization
Concurrent Activities
Bechtel Pueblo Team (BPT)
Government (ACWA, PCD, CHPPM)
Colorado Dept Public Health & Environment (CDPHE)
Environmental Protection Agency (EPA)
General Public
Acronyms and Key
Receive Request
Receive Request
Receive Request
Request BPT to Take Lead and Conduct HRA
Request PCAPP Project to Conduct HRA in Letter of Completeness
HRA Orientation with Regulatory Stakeholders
Based on:
Process Knowledge
Trade Studies
Aberdeen Knowledge
Waste Analysis
ACWA knowledge
Research/literature
Propose Chemicals of Potential Concern and Basis
Revisit and Provide Additional Supporting Information or Revise List
Work with BPT to Develop
Meet to Discuss
Concensus?
No
Yes
Based on:
Process Knowledge
Available engineering data
Provide Known Sources of Emissions and Basis
Revisit and Provide Additional Supporting Information or Revise Approach
Based on:
6 CCR 1000-7 Section 100.28
Realistic Exposure Scenarios
Known Surrounding Population and Activities
Propose Exposure Pathways, Receptors, and Activity Rates and Basis
Based on:
Table IV and V of 264.348
EPA Region IX PRG Tables
Army Toxicity Values for Mustard
Propose Toxicity Values for CoPC and Basis
Based on:
Cumulative lifetime cancer risk < 1 x 10-6
Cumulative HI < 0.25
Propose Risk Characterization Approach with Basis
Propose Uncertainty Analysis Approach with Basis
Informed on purpose, approach, and results of HRA. BPT, Government, ACWA to clearly convey the utility and limitations of HRA results.
HRA : Health Risk Assessment
CoPC: Chemicals of Potential Concern

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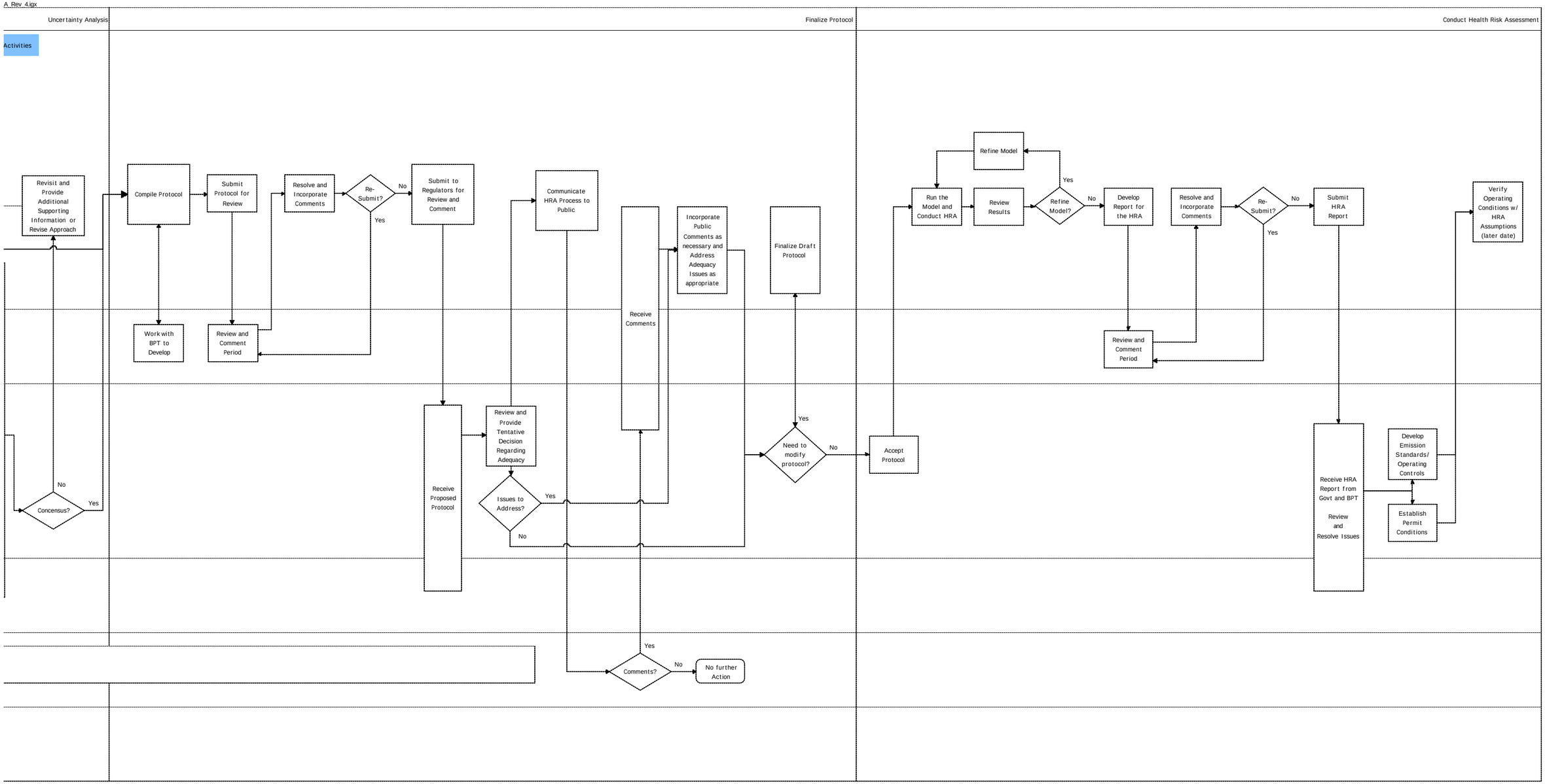
Uncertainty Analysis
Finalize Protocol
Conduct Health Risk Assessment
Activities
Revisit and Provide Additional Supporting Information or Revise Approach
Compile Protocol
Submit Protocol for Review
Resolve and Incorporate Comments
Re-Submit?
No
Yes
Submit to Regulators for Review and Comment
Communicate HRA Process to Public
Incorporate Public Comments as necessary and Address Adequacy Issues as appropriate
Finalize Draft Protocol
Work with BPT to Develop
Review and Comment Period
Receive Comments
Refine Model
Run the Model and Conduct HRA
Review Results
Refine Model?
Develop Report for the HRA
Resolve and Incorporate Comments
Re-Submit?
Submit HRA Report
Verify Operating Conditions w/ HRA Assumptions (later date)
Review and Comment Period
No
Concensus?
Yes
Receive Proposed Protocol
Review and Provide Tentative Decision Regarding Adequacy
Issues to Address?
Yes
No
Need to modify protocol?
Yes
No
Accept Protocol
Develop Emission Standards/ Operating Controls
Receive HRA Report from Govt and BPT
Review and Resolve Issues
Establish Permit Conditions
Comments?
Yes
No
No further Action