BURNS McDONNELL

Maximizing Site Value & Evaluating Future Use for Retired Power Plant Sites

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Agenda

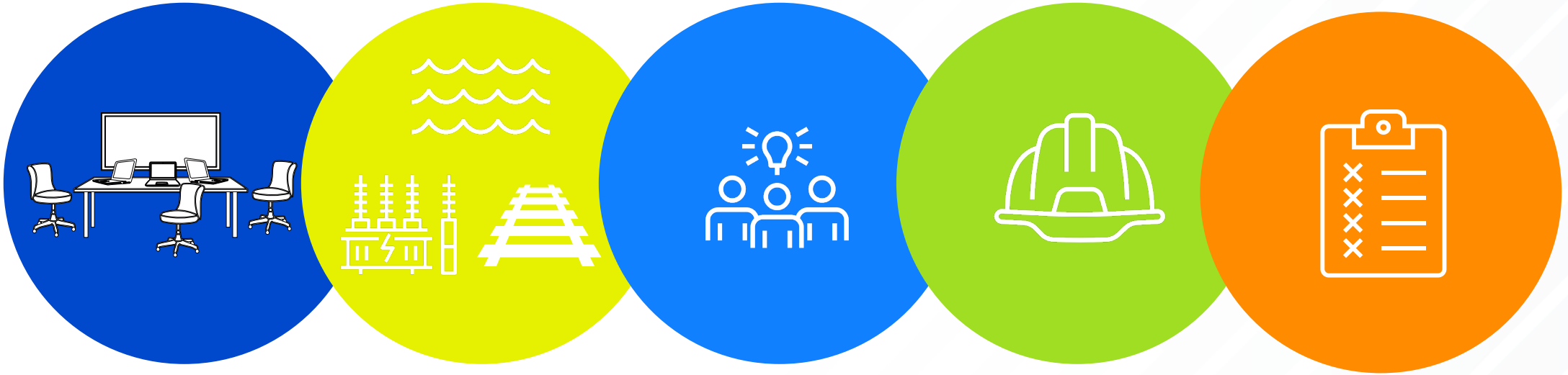
Step 1
Plant Retirement Planning

Step 2
Identification of Assets

Step 3
Reuse Alternatives Evaluation

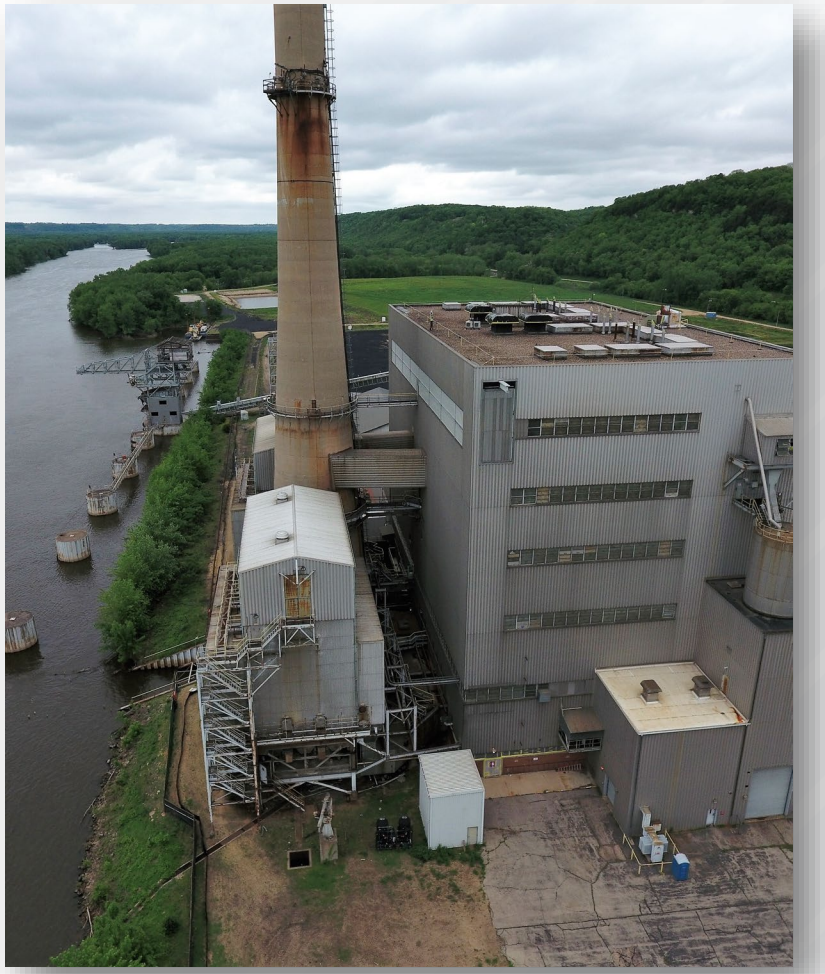
Step 4
Site Preparation for Alternatives

Summary



Step 1

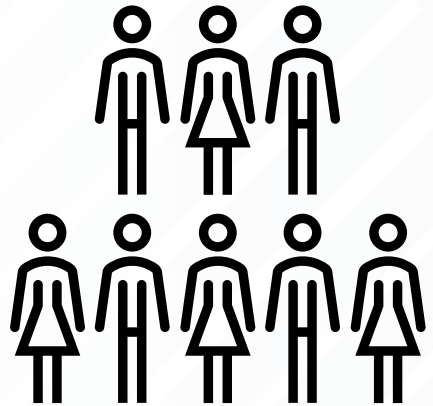
Plant Retirement Planning



Step 1 – Retirement Planning

Internal Stakeholders Discussions

- Coordinate meeting (s) with stakeholders to consider future use
  - ➡ Senior Management
  - ➡ Engineering
  - ➡ Environmental
  - ➡ Security
  - ➡ Real Estate
  - ➡ Telecommunications
  - ➡ Accounting
- Identify when plant will cease operation and when new reuse is anticipated



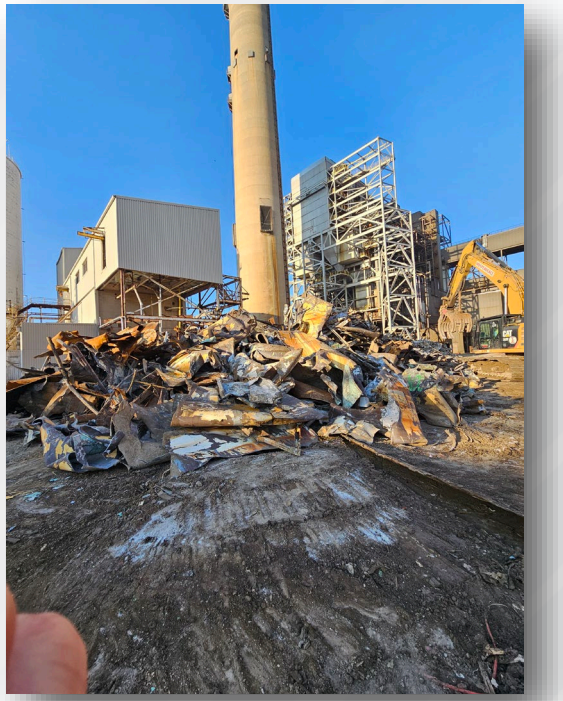
Step 1 – Retirement Planning

- Identify any future use constraints (environmental, regulatory requirements, etc.)
- Assemble List of Potential Future Uses
  - ➡ New generation
    - ♦ Simple-cycle
    - ♦ Combined-cycle
    - ♦ RICE
    - ♦ Solar
  - ➡ Battery Storage
  - ➡ Synchronous Condenser
  - ➡ Substation/Switchyard Expansion
  - ➡ Industrial/Commercial
  - ➡ Data Centers

Step 1 – Retirement Planning

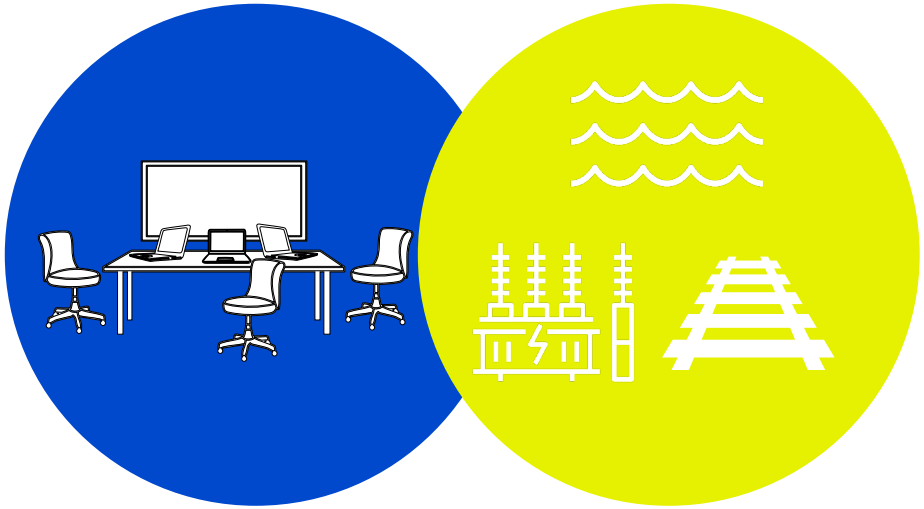
Determine Your Retirement Goals for Power Plant

- Retirement-in-Place
  - ➡ Building reuse by utility or for sale (no structural removal)
- Partial Demolition
  - ➡ Removal of portions of plant for reuse for other purposes
- Full Demolition
  - ➡ Whole property reuse



Step 2

Identification of Assets



Step 1

Plant Retirement Planning

Step 2 – Asset Identification

Property Assets

- Waterway Access
  - ➡ Barge loading/unloading
  - ➡ Discharge structures
- Water Rights
  - ➡ Intake structures for water
  - ➡ Discharge structure and permits

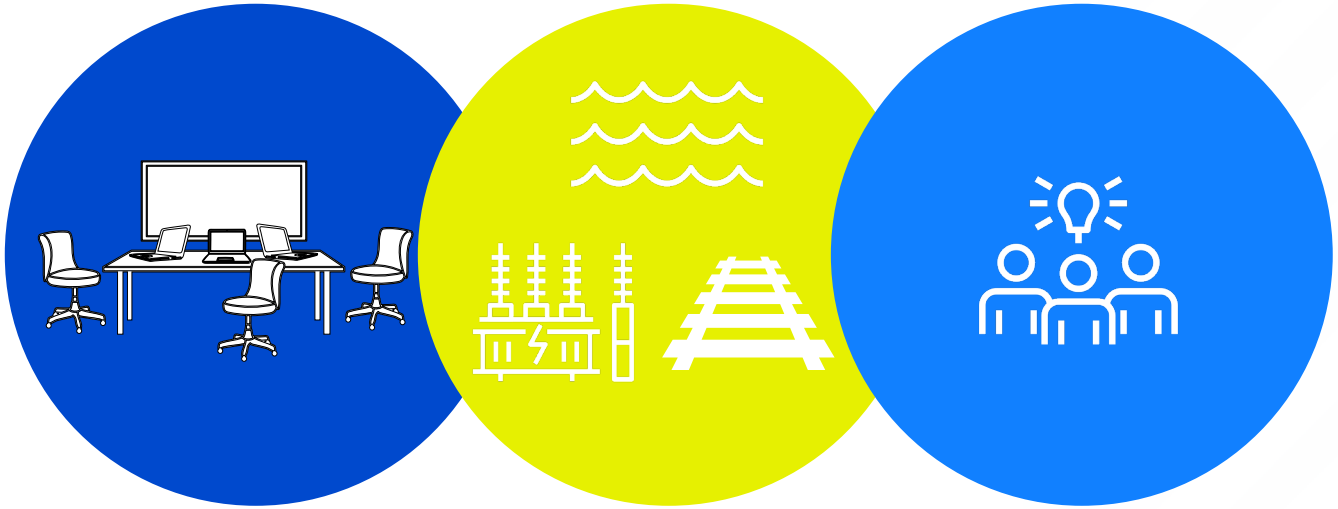
Step 2 – Asset Identification

Property Assets

- Grid Interconnection
- Utilities
  - ➡ Natural Gas
  - ➡ Water
  - ➡ Sewer
- Rail / Highway Access
- Commercial zoning

Step 2

Identification of Assets



Step 1

Plant Retirement Planning

Step 3

Reuse Alternatives Evaluation

Step 3 – Alternatives Evaluation

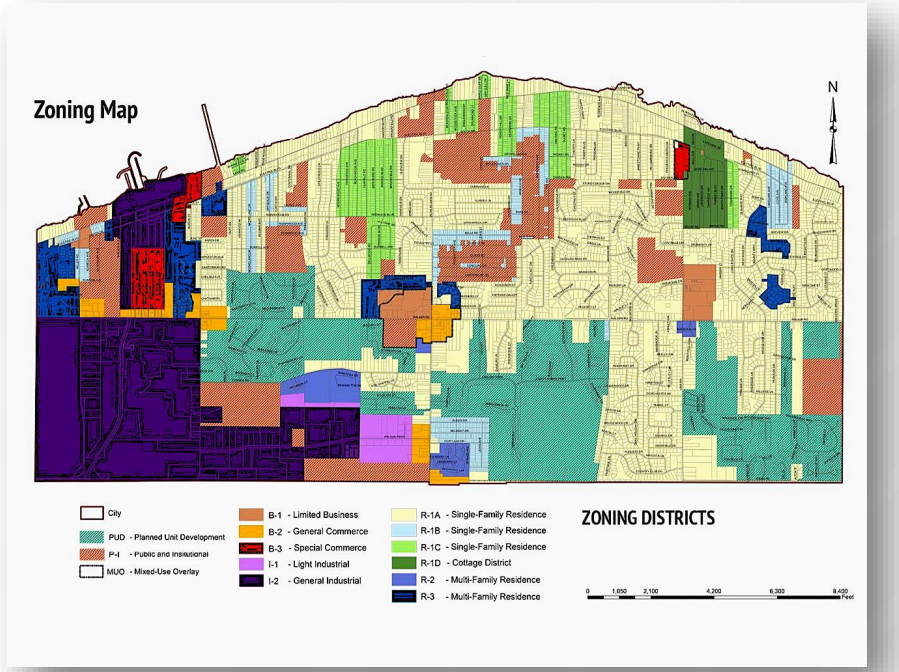
Best Site Reuse Evaluation

- Site setting (topography)
  - ➡ Site ability to host new use
  - ➡ Site regrading necessary to facilitate new use
  - ➡ Location of adjacent water ways, wetlands, etc.
- Access to site (roads/rail/river)
  - ➡ Local, state and Interstate highways
  - ➡ Active spurs and mainline rail
  - ➡ River access for barge loading/unloading

Step 3 – Alternatives Evaluation

Best Site Reuse Evaluation

- Access to potential workforce
  - ➡ Labor
  - ➡ Contractors
- Need for property types based on community development plans
  - ➡ Community redevelopment plans
  - ➡ Other industries in the area that may need support
  - ➡ Regional needs for new generation, battery storage
  - ➡ Regional/Nationwide needs for Data Centers based on increased AI usage



Step 3 – Alternatives Evaluation

Best Site Reuse Evaluation

- Available utilities to site
  - ➡ Natural Gas (for new generation or industrial/commercial use)
  - ➡ Water (potable/fire)
  - ➡ Electricity
  - ➡ Sewer (storm/sanitary)
- Neighboring properties
  - ➡ Ability to expand or add to property
  - ➡ Residential vs Industrial neighbors
  - ➡ Noise and operational concerns with new use

Step 3 – Alternatives Evaluation

Cost Estimate Development

- Site Preparation
  - ➡ Environmental Abatement
  - ➡ Structures/Foundation Removals
  - ➡ Existing utilities abandonment or removal
  - ➡ New utilities installation
  - ➡ Subsurface preparation
  - ➡ Final site grading

Generating Station
Full Demolition Cost Estimate Summary

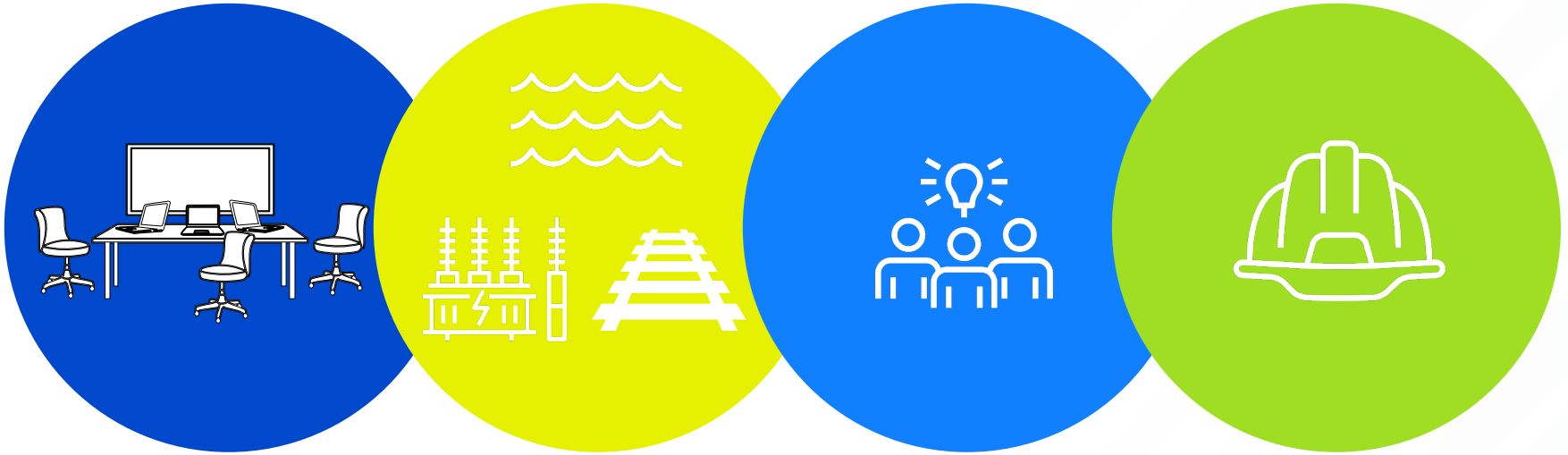
Item	Description	Task Cost
1	**General Conditions**	
1.1	Mobilization and De-Mobilization	$ 185,000
1.2	Erosion Controls	$ 61,000
1.3	Mechanical System Isolation	$ 10,000
1.4	Electrical System Isolation/Reconfiguration	$ 129,000
1.5	IT & Telecommunications Isolation or Re-Routing	$ 60,000
1.6	Energy Delivery System Isolation	$ 563,000
1.7	Full Removal of Intake & Discharge	$ 2,161,000
	Subtotal for General Conditions Costs	**$ 3,169,000**
2	**Decommissioning and Cleaning**	
2.1	Drain Boiler, Condenser, Feedwater Heater, Boiler Feed Pumps	$ 17,000
2.2	Boiler, Precipitator & Ash System Cleaning	$ 210,000
2.3	Remove and Dispose all Debris, Trash & Combustibles	$ 96,000
2.4	Lubricating & Hydraulic System Draining	$ 107,000
	Subtotal for Decommissioning & Cleaning Costs	**$ 430,000**
3	**Environmental Costs**	
3.1	Asbestos Removal and Disposal	$ 1,795,000
3.2	PCB Building Materials Abatement	$ 562,000
3.3	Universal Waste Removal and Disposal	$ 150,000
3.4	Regulated Materials & Chemical Removal	$ 700,000
3.5	Transformer Oil Disposal	$ 47,000
3.6	PCB Impacted Concrete Removal	$ 29,000
	Subtotal for all Environmental Costs	**$ 3,283,000**
4	**Structure Demolition and Removal**	
4.1	Demolition of Units 1, 2, 3 Turbine Hall, Coal Handling, and Out Buildings	$ 4,830,000
4.2	Chimney Demolition	$ 445,000
4.3	Slab & Foundation Demolition	$ 250,000
4.4	Backfill from Borrow Source	$ 125,000
4.5	Asphalt Removal	$ 55,000
	Subtotal for Demolition and Removal	**$ 5,705,000**
5	**Site Restoration**	
5.1	Rail Road Track Removal	$ 946,000
5.2	Concrete Crushing	$ 390,000
5.3	Backfill & Compaction	$ 410,000
5.4	Fine Grading & Seeding	
	Subtotal for Site Restoration	**$ 1,746,000**
	Subtotal Direct Costs	**$ 14,333,000**
	Indirect Costs	
	Engineering/Permitting/Construction Management	$ 1,863,000
	Bonds/Insurance	$ 287,000
	Contingency	$ 2,867,000
	Total Direct and Indirect Costs	**$ 19,350,000**
	Scrap Salvage Quantity and Value	
	Ferrous Metals Quantity (29,000 tons)	$ (1,050,000)
	Non-Ferrous Quantity (2,265,000 lbs)	$ (1,740,000)
	Subtotal for all Scrap Salvage Value - SUM OF Item Nos 6.2 and 6.4	$ (2,790,000)
	Tot Net Cost	**$ 16,560,000**
	Owner Costs	$ 968,000
	Owner Contingency	$ 968,000
	TOTAL PROJECT COST (Including Owner Costs)	**$ 18,496,000**

Step 2

Identification of Assets

Step 4

Site Preparation for Alternatives



Step 1

Plant Retirement Planning

Step 3

Reuse Alternatives Evaluation

Step 4 – Site Preparation

- Grid disconnection
  - ➡ Identify interconnections
  - ➡ Drop interconnections to power down the plant
  - ➡ Determine potential for temporary power during abatement/demolition
- Structure decommissioning
  - ➡ Chemicals, oils, greases, other materials removal/disposal
  - ➡ Asbestos abatement
  - ➡ PCB-impacted material removal
- Structure removal
  - ➡ Valuation evaluation for structures and equipment (resale vs scrap)
  - ➡ Traditional demolition vs explosive demolition
  - ➡ Scrap value (owner controlled vs demolition contractor controlled)

Step 4 – Site Preparation

- Foundation abandonment/removal
  - ➡ Partial removal (just below grade)
  - ➡ Partial removal to pile caps
  - ➡ Full Removal
- Underground utilities abandonment/removal
  - ➡ Abandonment of utilities in-place (cap ends for small diameter)
  - ➡ Abandonment of utilities in-place (flowable fill for large diameter)
  - ➡ Full removal and backfilling
- Final site restoration
  - ➡ Excavation and engineered backfill for new construction
  - ➡ Site grading (rough) preparing for new construction
  - ➡ Site grading (fine) for immediate reuse

Step 4 – Site Preparation

Other Retirement Requirements – For Coal Plants

- Determine coal pile, landfill and pond closures
  - ➡ Coal Pile: residual removal and capping/grading
  - ➡ Landfill: close in place or remove
  - ➡ Ash Pond: close in place or remove
- Legacy CCR Rule, 2024
- Onsite stormwater/process ponds


COAL PILE REMOVAL


LANDFILL CAPPING


ASH POND REMOVAL

Step 2

Identification of Assets

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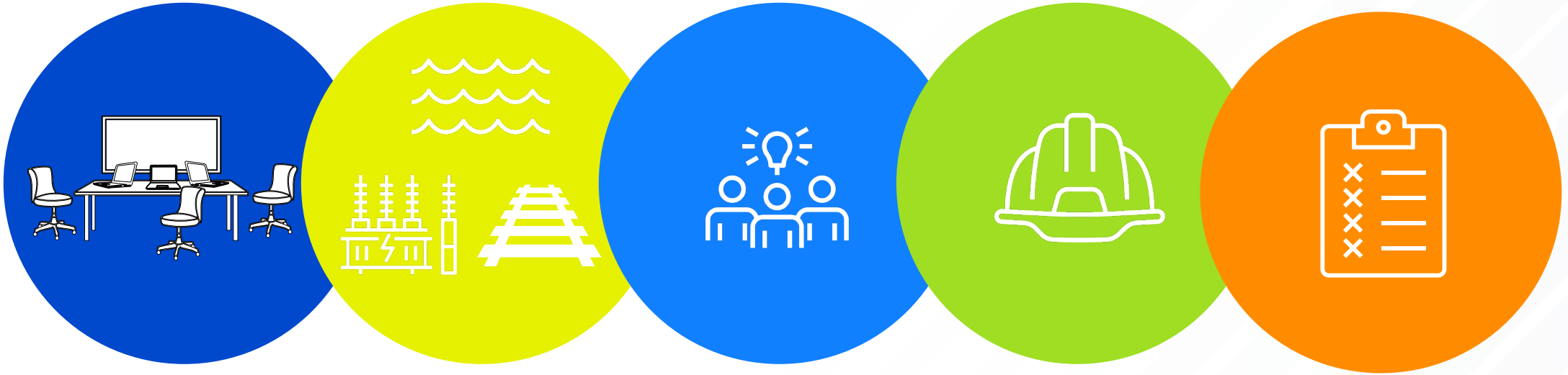
Site Preparation for Alternatives



Step 1

Plant Retirement Planning

Step 3

Reuse Alternatives Evaluation

Summary

Summary

- Retirement planning should include potential reuse opportunities
- Identify the site assets
- Evaluate potential reuse alternatives
- Prepare the site to accommodate the chosen reuse option(s)

QUESTIONS

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