

Delta Conveyance Project

September 2020



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Presentation Outline

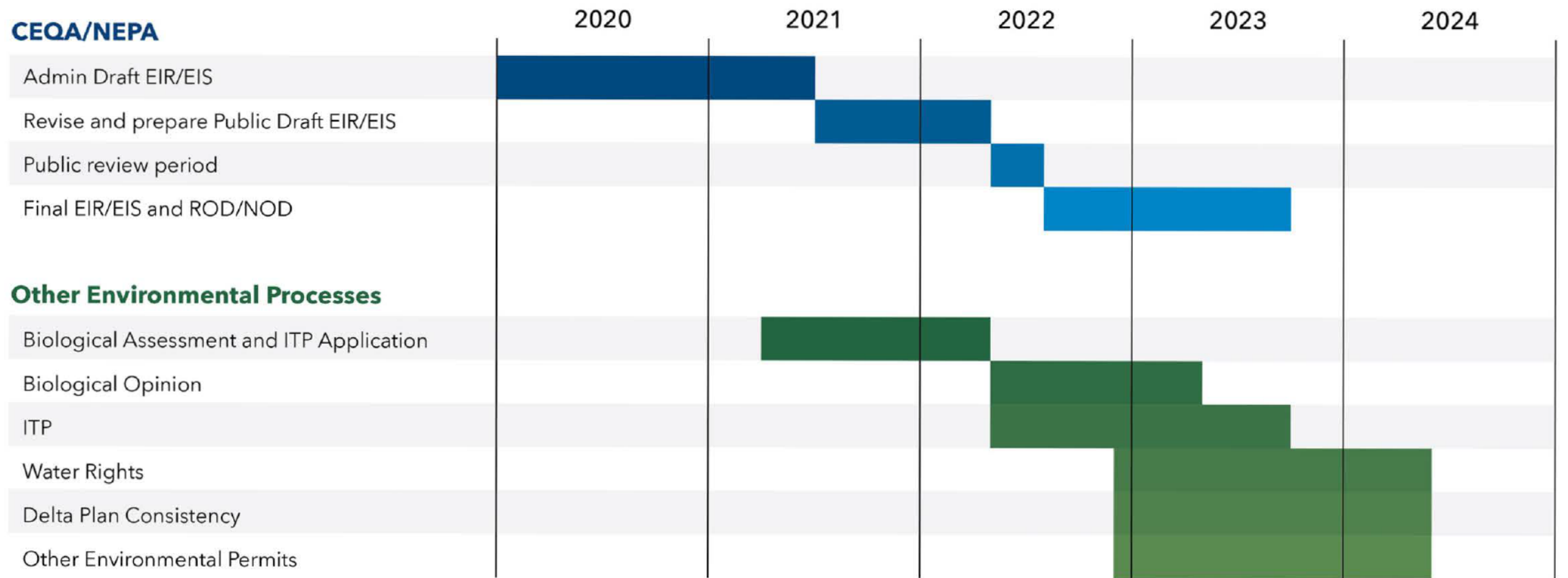
- Proposed Project - Notice of Preparation
- DCP Preliminary Benefits
- DCP Costs and Cost Allocation
- Funding Agreements
- DCA Governance Changes

Three Things to Review and Decide

- Review the Overview and Summary document and this PowerPoint presentation
 - Cost information
 - Benefit (Yield) information
 - Benefit allocation under the Agreement in Principle
 - DWR/Agency Funding Agreement, DCA JPA, Cost of Participation
- Determine the level of participation by your district.
- For MUs that choose to participate, execute a funding agreement to accommodate DCP planning costs

Project Schedule

Delta Conveyance Project Schedule



Project Overview

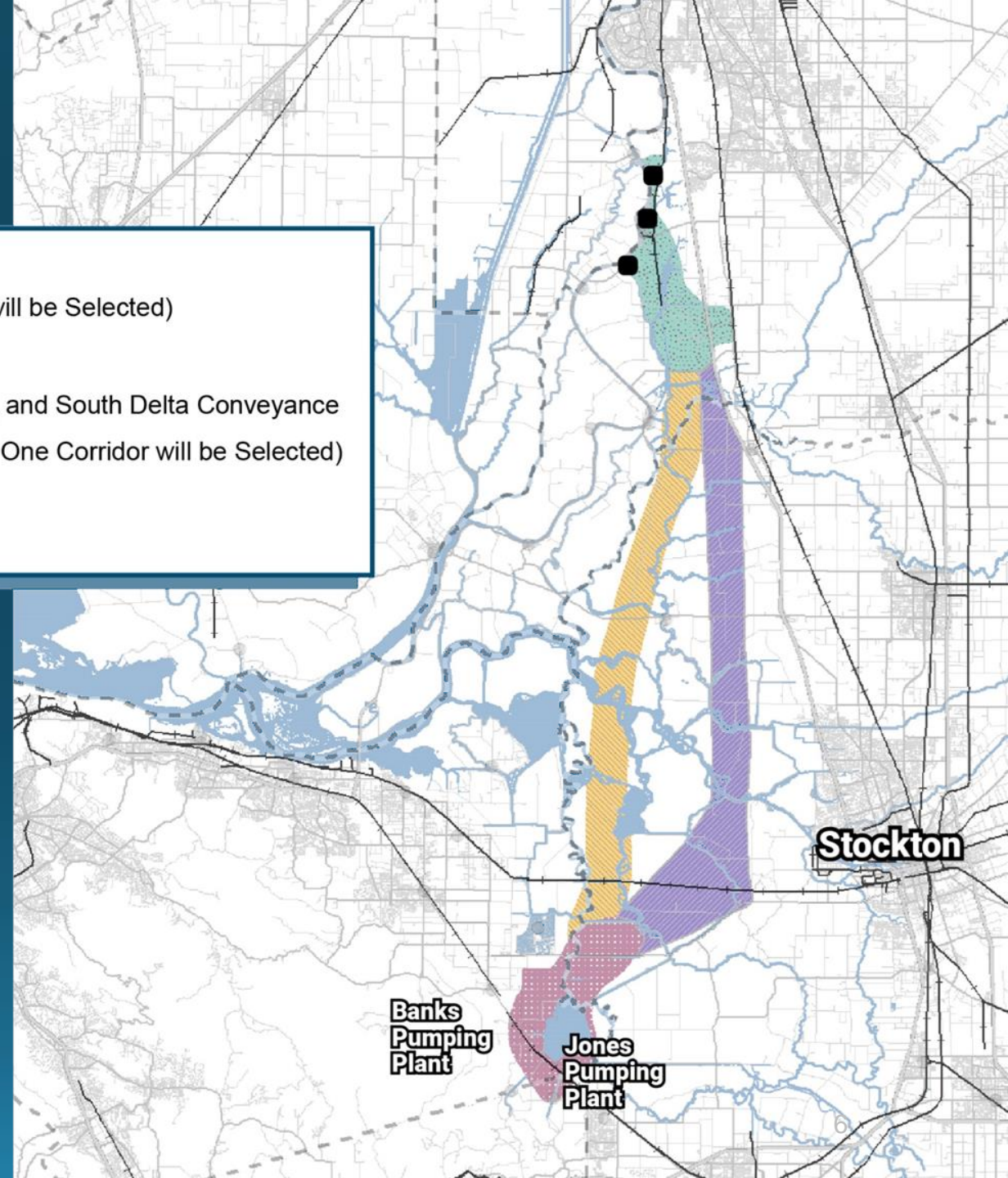
Delta Conveyance

Notice of Preparation

New Facilities

Legend

- Potential Intakes (Only Two Sites will be Selected)
- Intakes and North Tunnels
- Pumping Plant, Southern Forebay, and South Delta Conveyance
- Potential Optional Tunnel Corridors (Only One Corridor will be Selected)
- Central Tunnel Corridor
- Eastern Tunnel Corridor



Delta Conveyance Objectives – Notice of Preparation

To restore and protect ability to deliver SWP Water Supply

- **CLIMATE RESILIENCY:** Addresses climate change, extreme weather, and rising sea-levels in the Delta for the SWP
- **SEISMIC RESILIENCY:** Minimizes health/safety risk to public from earthquake-caused reductions in water delivery quality and quantity from the SWP
- **WATER SUPPLY RELIABILITY:** Restores and protects ability to deliver SWP water in compliance with regulatory and contractual constraints
- **OPERATIONAL RESILIENCY:** Provides SWP operational flexibility to improve aquatic conditions and manage risks of additional future constraints

Delta Conveyance – Notice of Preparation

New Facilities:

- Intakes
 - Two intakes (3,000 cfs each)
- Tunnel
 - One underground tunnel
 - Two potential corridors being considered
- Forebays
 - Intermediate and southern
- Pumping plant
- South Delta conveyance facilities
- Other ancillary facilities
- DWR is developing alternatives
 - 3,000 – 7,500 cfs
 - With and without CVP participation
 - Decided by the EIR/S process

DCP Preliminary Benefits

Chandra Chilmakuri

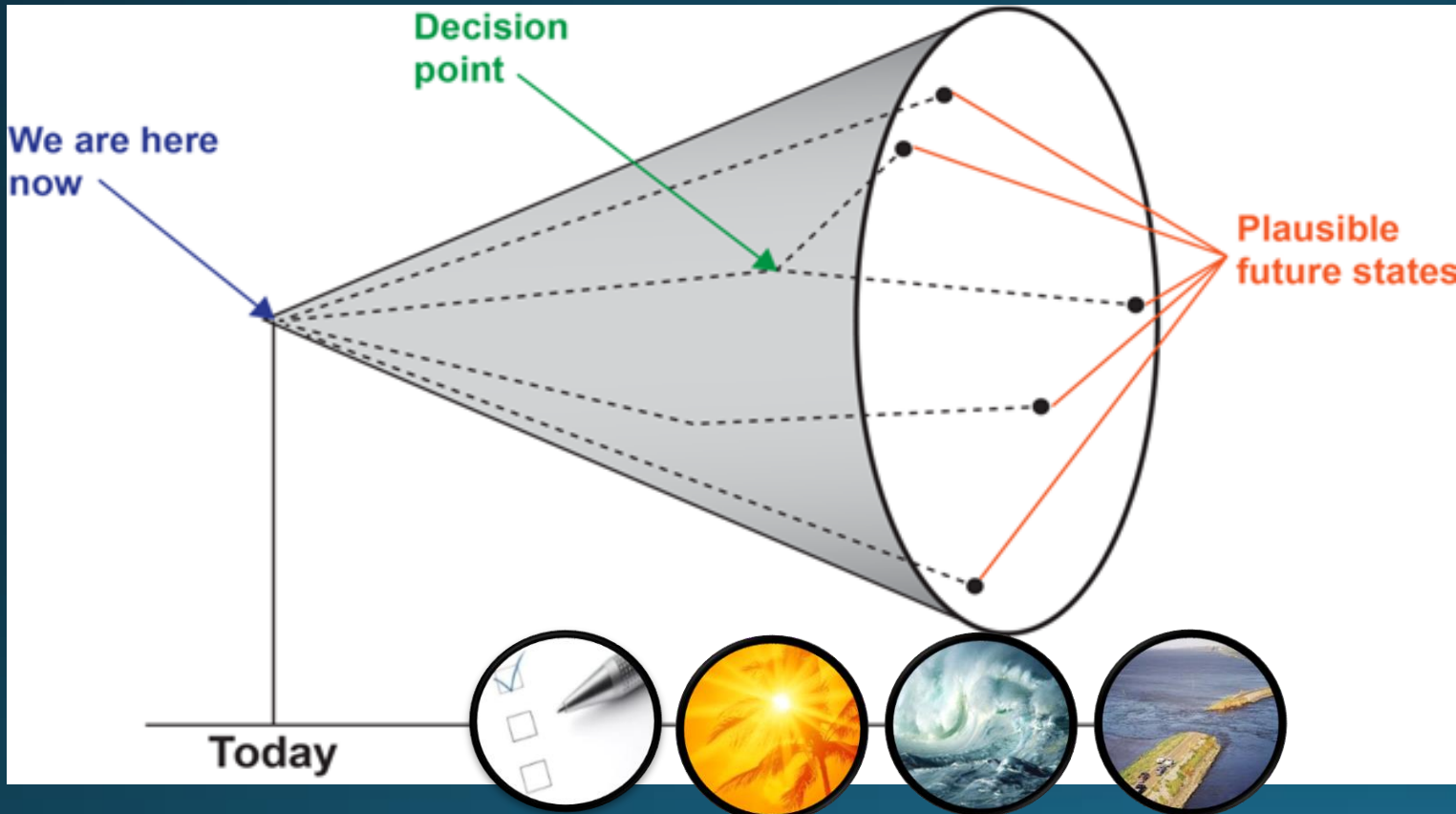
Preliminary DCP Benefits Analysis

- DWR is currently developing the Delta Conveyance Proposed Project.
- At this time, DWR has not defined the project operations and has not completed regulatory processes that may impact project operations.
- Coarse estimate of water supply changes using CalSim II.
- Estimates may change as Delta Conveyance Project is further defined, permitting is completed and modeling is refined.

Water Reliability and Resiliency Benefits

- Water supply reliability and SWP resilience
 - Climate change adaptation/stormwater capture
 - Sea-level rise adaptation
 - Seismic resilience
- South Delta flow pattern improvements for fisheries
- Water transfer capacity and carriage water savings
- Water quality improvements for SWP deliveries

Estimating SWP Exports under Future Conditions and Risks



Risk drivers: Changing regulations, climate, sea level, seismic and levee conditions, other?

- DCP will operate under future conditions
- Exact future conditions unknown
- Future likely a combination of climate/hydrology, sea level, regulatory, seismic, and other risk drivers
- Scenarios help explore plausible futures and assess SWP reliability and resilience

Preliminary Water Supply Assessment Scenarios

- 5 plausible combinations of regulatory, climate and sea level, and seismic/levee risk future scenarios
- Each scenario simulated with and without DCP
- DCP operations based on California WaterFix



DCP Improves SWP Resilience Under Future Conditions

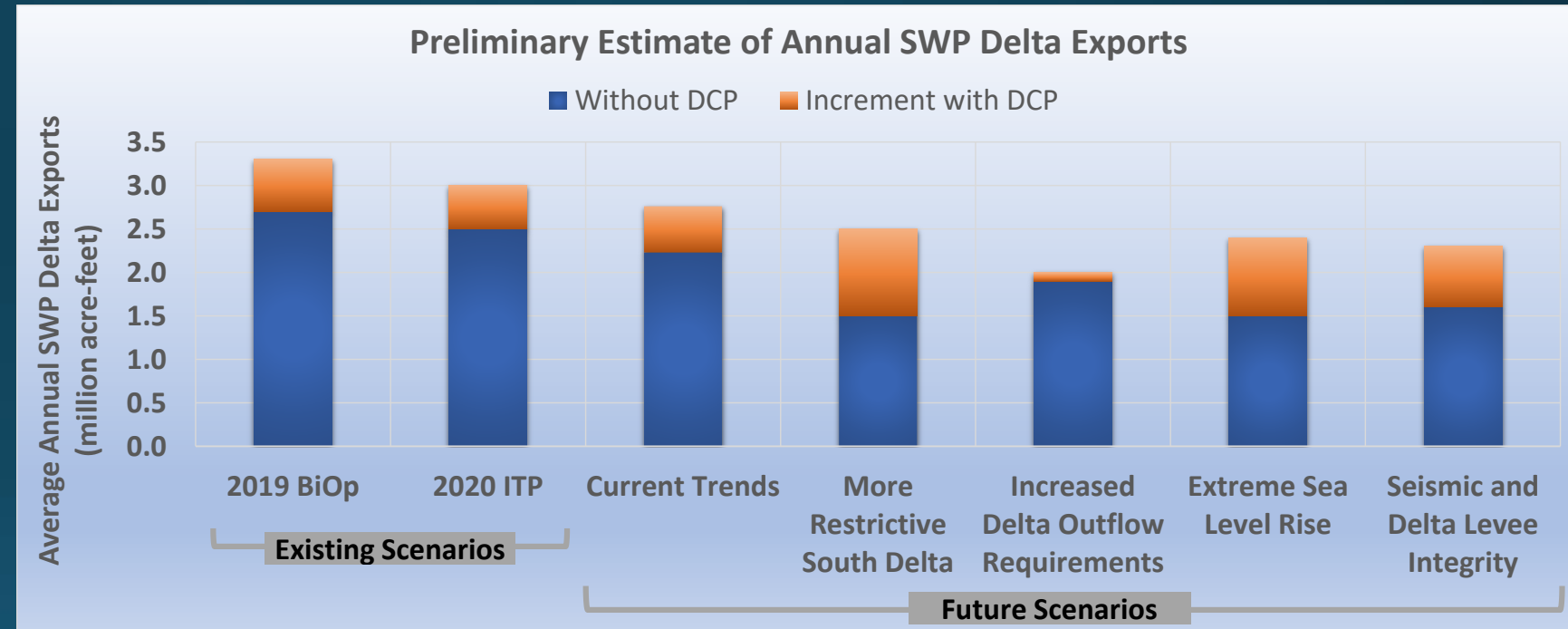
Estimated Annual SWP Exports (MAF/Yr)			
	Without DCP	With DCP	Difference
Existing SWP (ITP)	2.5	3.0	0.5
Current Trends	2.23	2.76	0.53
More Restrictive South Delta	1.5	2.5	1.0
Increased Delta Outflow Requirements	1.9	2.0	0.1
Extreme Sea Level Rise	1.5	2.4	0.9
Seismic and Delta Levee Integrity	1.6	2.3	0.7
Minimum	1.5	2.0	
Maximum	2.23	2.76	
Average	2.0	2.6	

- SWP exports decrease by ~300 to 1000 TAFY under future scenarios without DCP, compared to the existing conditions
- DCP allows similar SWP exports as the existing conditions in the future – *demonstrates improved resilience*

*TAFY: thousand acre-feet per year on average

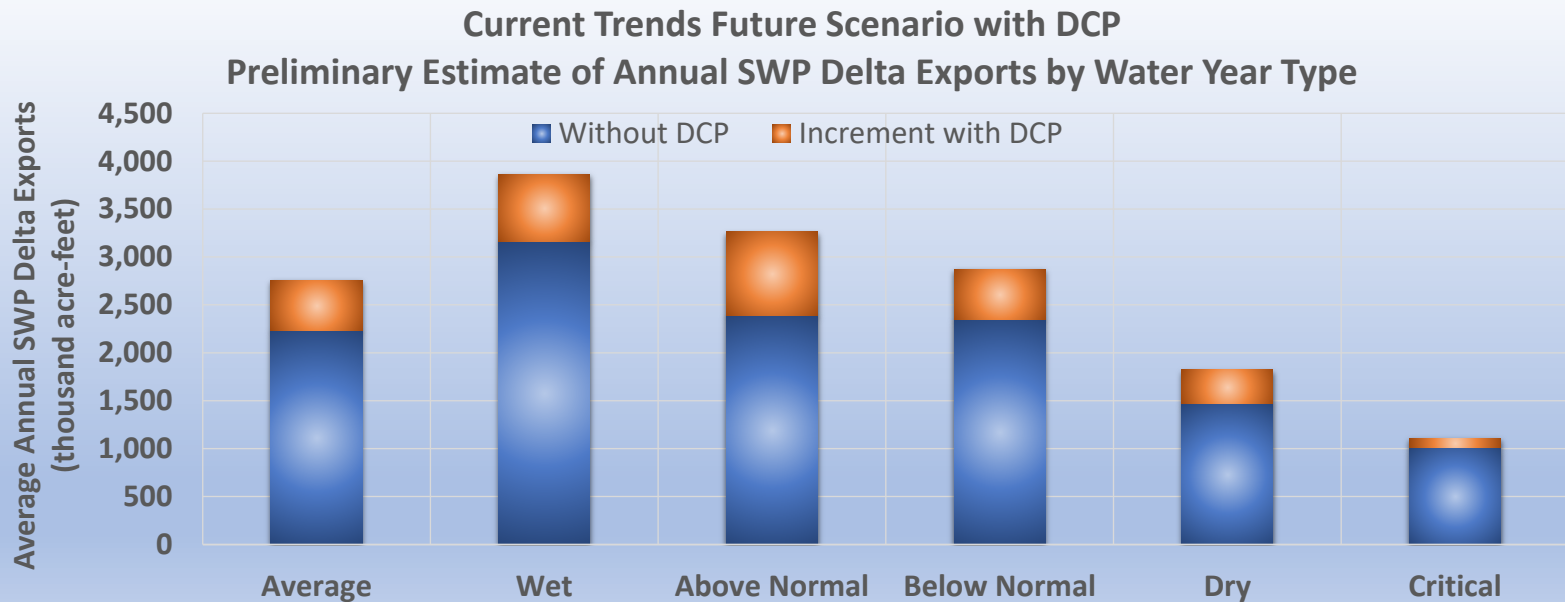
SWP Reliability Compared to Future Conditions Without DCP

- DCP shows potential to alleviate reductions to SWP reliability under many plausible future risk scenarios
 - ~100 TAFY to 1000 TAFY under greater regulatory restrictions
 - ~700 TAFY under seismic risks and delta island flooding
 - ~900 TAFY under extreme sea level rise
- Exact future likely a combination of climate/hydrology, sea level, regulatory, seismic, and other risks



*TAFY: thousand acre-feet per year on average

Preliminary Estimate of Potential SWP Water Supply Change with DCP Under Current Trends



*TAFY: thousand acre-feet per year on average

- Current Trends scenario assumes:
 - current Delta regulations
 - projected climate change and sea level rise around year 2040
 - WaterFix operations for DCP
- Estimated SWP export improvement with DCP of ~500 TAFY under the Current Trends scenario
- Most of the export improvement in wetter years
- On average, ~60% increase is Table A and ~40% increase is Article 21
- As DCP Proposed Project is further defined and modeling is refined, water supply estimates may change

DCP Preliminary Costs and Cost Allocation

Previous Cost Estimates

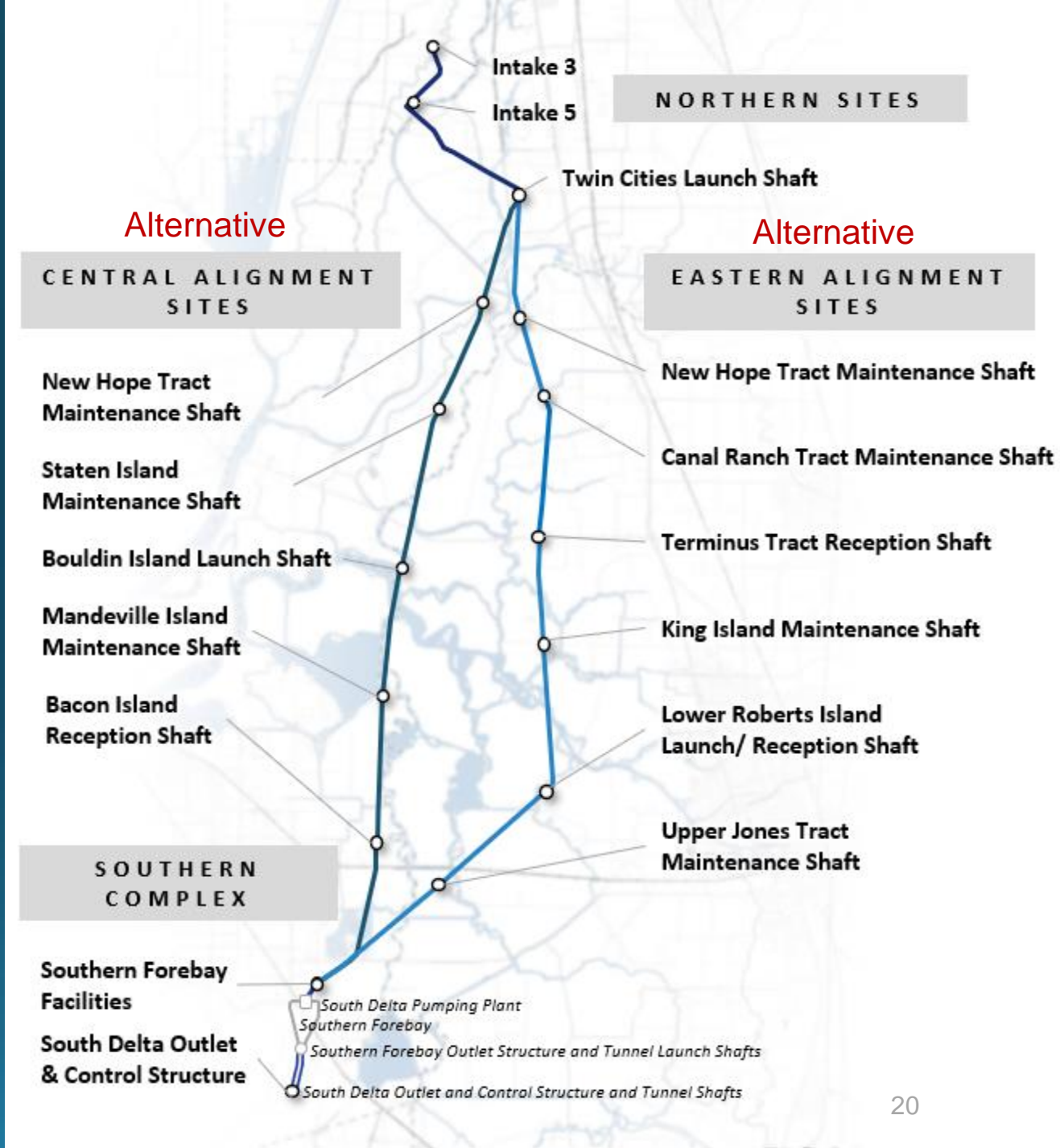
- 2014 DHCCP Cost estimate - \$24.78 B
 - 2 Tunnels
 - 5 Intakes
 - Split CVP, SWP
- 2017 Cost estimate - \$16.7 B
 - 2 Tunnels
 - 3 Intakes
- 2017 Cost estimate - SWP share \$11.09 B
 - 2 tunnels
 - 3 intakes
 - 67% SWP, 33% MWD

DCA Cost Assessment

DCA Program Scope:	Cost assessment based on DWR's Proposed Project in NOP Conceptual Engineering Report (CER) is not completed
Purpose:	Early cost assessment to inform PWA's investment in project planning
DCA Cost Assessment:	\$15.9 billion in non discounted dollars
Included:	Based on preliminary engineering but includes project costs for construction, management, oversight, mitigation, planning, soft costs and contingencies

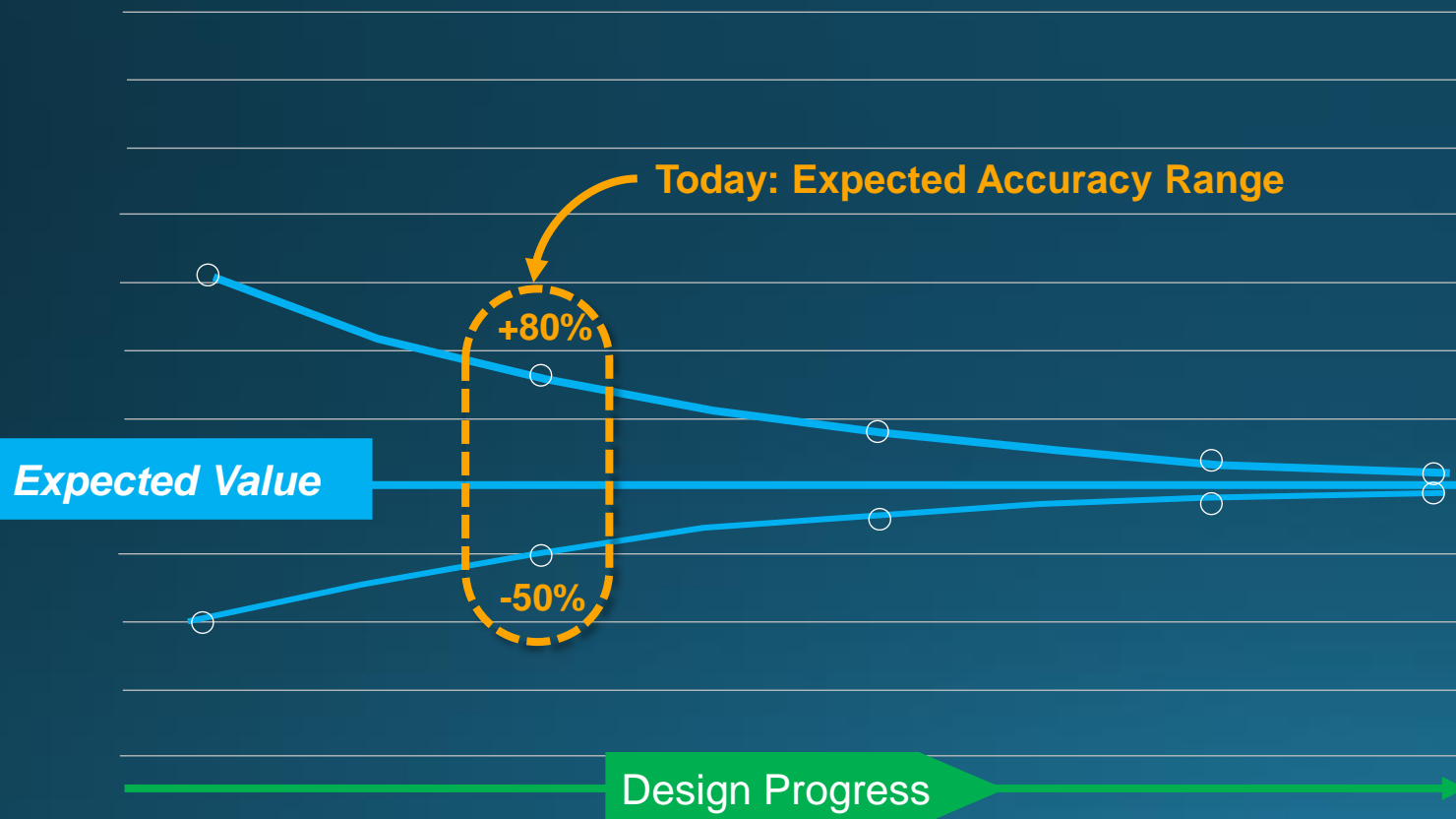
Cost Information Assumptions

- **Proposed Facilities Included in Estimate:**
 - One Tunnel - Total capacity 6,000 cfs
 - Two intakes at 3,000 cfs each
 - 42 miles of tunnel and associated shafts
 - Southern Complex Facilities
 - Pump Station
 - Forebay
 - Connections to existing CA Aqueduct



DCA Cost Assessment – Refinement with Time

Confidence Interval Accuracy Range for most probable construction cost of \$12.1 billion
DCA Cost Assessment \$15.9 billion (non discounted dollars)



- The boundaries of the curve represent expected range of accuracy of construction costs
- In early stages, a much wider range of potential construction costs due to the uncertainty of available information
- As the design advances, the range of the construction costs diminish

Construction Costs

Significant Features	(\$ millions in 2020)	
	CWF ¹	DCA
Intakes 3 and 5	814	1,397
Tunnels (North and Main)	4,226	4,302
Clifton Court Forebay & South Delta Connectors and South Tunnels	679	1,357
Pump Plant (CWF to 6,000 cfs)	401	794
Utilities, Power, Roads, and Communication and Controls	454	508
Total	6,574	8,358

1. CWF costs are normalized to represent a single tunnel of smaller diameter and a 6,000 cfs pump plant.

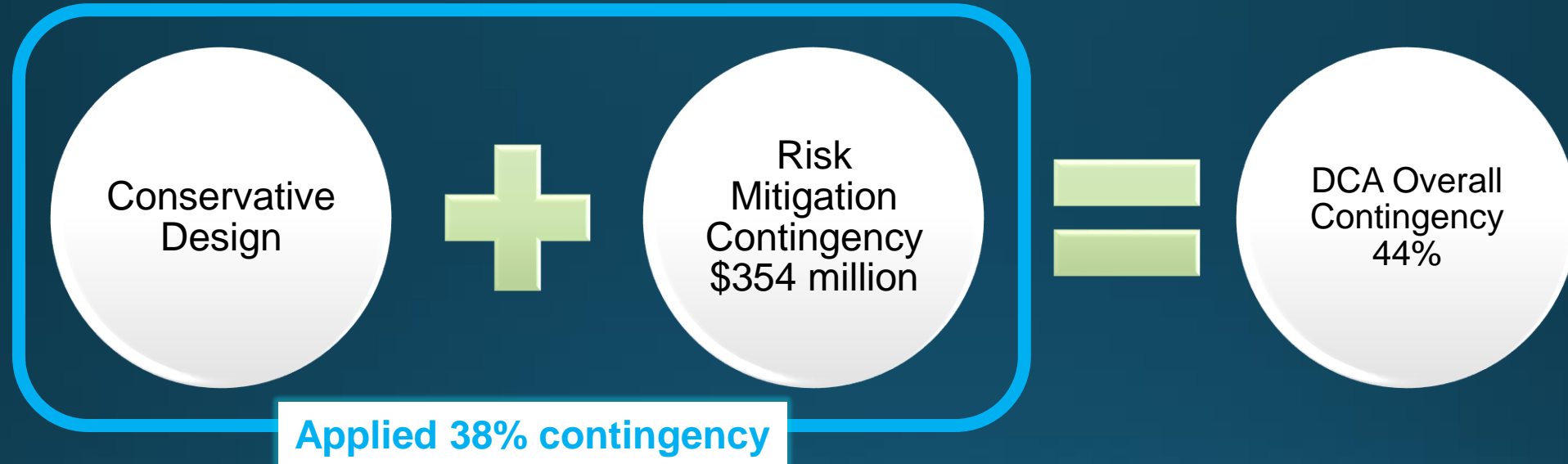


Intakes



Pump Station

Contingency Levels for DCA Cost Assessment



WaterFix Overall Contingency

35% of construction costs

Contingency and Soft Cost Variance

Category	DCA Estimate (\$ Billions)	% of Baseline Construction Costs	Industry Range ⁴ (% of Baseline Construction Costs)	Applied Industry Range (\$ Billions)	Variance from Industry Range (\$ Billions)
Baseline Construction	8.37 ¹	100	100	8.37	-
Contingency	3.71 ²	44	10 to 30	0.84 to 2.51	1.20 to 2.87
Program Management	0.42	5	6	0.50	(.08)
Design & CM	2.42	29	10 to 15	0.83 to 1.26	1.16 to 1.59
Subtotal for Variance³	14.92	178	126 to 151	10.55 to 12.64	2.28 to 4.37
DCO oversight, mitigation, land acquisition	.98	n/a	n/a	n/a	n/a
Total Project	15.9	n/a	n/a	n/a	n/a

1. This removes \$354 M from the DCA construction costs since those were line item risk mitigation contingencies.
2. This adds \$354 M to the DCA stated contingency of 3.3 to include risk mitigation contingencies.
3. Does not include DCO oversight, mitigation, land acquisition, capital costs, and O&M costs.
4. Based on level of detail provided in DCA documents and estimate

Agreements

Agreements for Agency Board Consideration – November 2020

1. Agreement in Principle (AIP) for the SWP Delta Conveyance Contract Amendment

➤ Agency's DCF Participation Factor = ___ %

2. Funding Agreement for DCF Planning Costs

3. Delta Conveyance Design and Construction Authority (DCA) JPA Agreement



Agreement in Principle (AIP) for SWP Delta Conveyance Contract Amendment

Delta Conveyance AIP

- Option to opt-out of DCF costs and benefits
- Option to assume additional DCF costs and benefits
- Effective Date will be on or after the contract extension billing transition date
- Costs and DCF water supply are allocated based on the DCF Participation Table
- Adopt “Pay-As-You-Go” Billing Provisions for both the Capital and Minimum Components



Funding Agreement

Key Provisions of Funding Agreements

- Funding Agreements for \$385 million for planning costs from 2021-2024
- Authorizes contributed funds to be spent on DCA invoices consistent with the JEPA and DCO environmental planning costs
- Allows for customization of contributed funds
- Provides flexibility to provide additional funds without amendment to the Agreement

Options:

- Statement of Charges
 - Rebill for 2021 SOC
 - Pay-go or Lump Sum
- Authorization for entire share of \$385 million in planning costs or only first two years
- Will allow for additional funds to be contributed upon showing of Board authorization

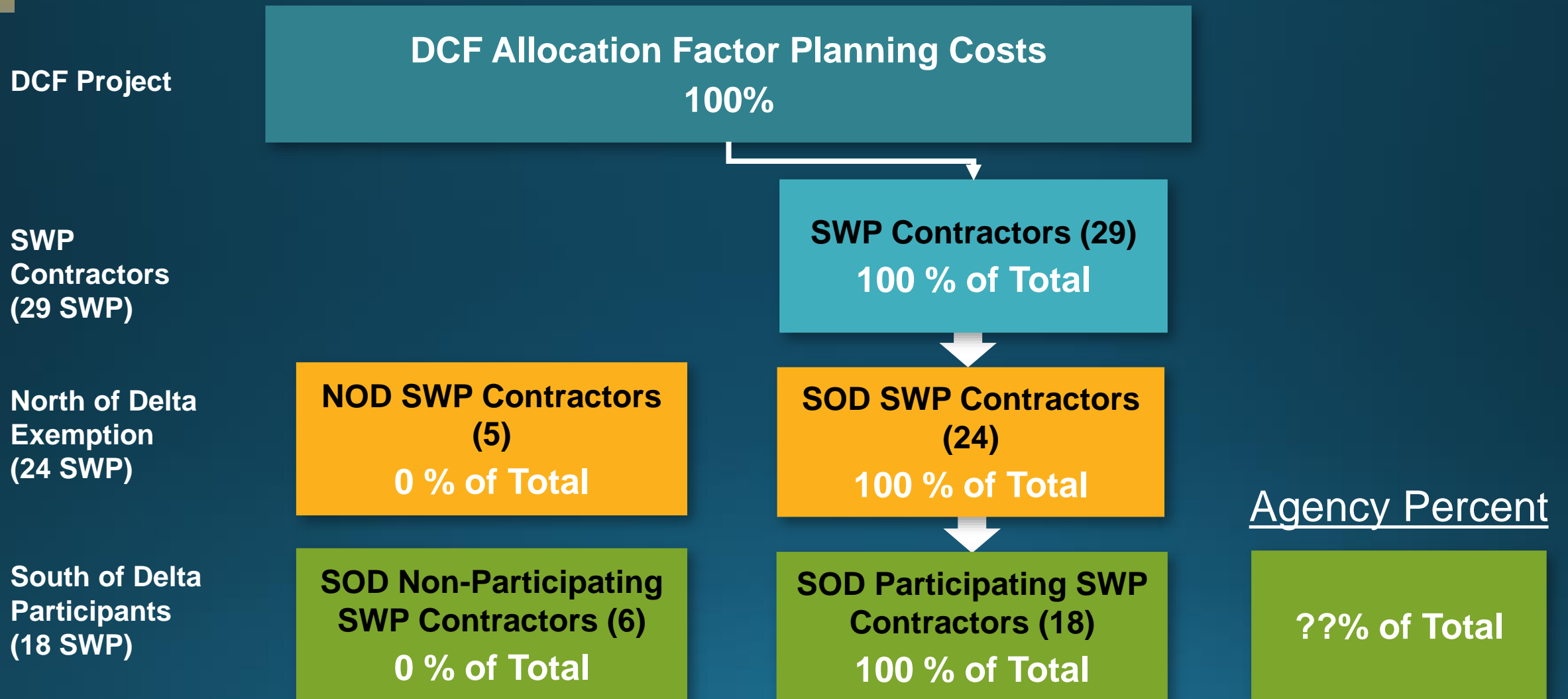


DCA Governance Changes

DCA Governance Changes

- Change the number of DCA Board of Directors from five (5) to seven (7)
- Convert the existing 'non-SWP capacity' and at-large SWC seats
 - One (1) seat for Class 2 members, except Santa Clara Valley Water District
 - One (1) seat for Classes 3, 5, and 7
- Add two (2) at-large seats for Class 8 members
- Continue one (1) seat each for:
 - Kern County Water Agency
 - Metropolitan Water District of Southern California
 - Santa Clara Valley Water District

DCF Allocation Factor (%) – Planning Costs



Summary

- Project Schedule – ROD/NOD mid-2023
- Project Benefits (yield) – Current modeling shows that DCP improves yield under 5 different scenarios
- Project Cost
 - Planning costs over 4 years = participation percent of \$385M
 - Project cost estimated at \$15.9B
- Funding Agreement
 - SOC (rebill for 2021)
 - Lump Sum or Pay-go
 - Two years or 4 years
- Member Unit Board actions in October
 - Other participants expect that construction participation will be at the same level as participation in the planning phase unless there is significant change in the project or its costs.