

Staff Report

TO: Board of Directors

FROM: Jennifer Hanson, General Manager
Greg Jones, Assistant General Manager

DATE: June 7, 2022

SUBJECT: Plan for Water Workshop – Risk

ADMINISTRATION

RECOMMENDATION:

Open a workshop and provide a presentation describing NID's Risks.

BACKGROUND:

NID is continuing on the Plan for Water (PFW) process, which includes a comprehensive review of available water supply and the long-term impact on varying water demands. Once complete, it is anticipated the PFW will consist of a suite of possible supply and demand management strategies to address a range of future conditions to ensure reliable water supplies.

The success of the PFW will be largely dependent on stakeholder involvement. As such, NID has interest in providing relevant details and information regarding current system operations. A better understanding of NID today will help inform future discussion as we navigate the PFW process.

This workshop will be an informational presentation on the District's Risks. Risks to NID may be subject to any facility or activity, including infrastructure, property, equipment or service, that if adversely affected during a hazard event may result in severe consequences to public health and safety or interrupt essential services and operations for the community at any time. This discussion will seek to understand general risks to the District and to use that knowledge to influence the way we analyze short and long-term District objectives. We do not intend to attribute risks to individual projects or facilities during this discussion, nor is it intended to cover all applicable risks associated with District activities.

Risks discussed during this session include:

- Business & Operational Risk
 - Critical Facilities & Aging Infrastructure
 - Human Resources, Employees & Culture
 - Public Safety
 - Cyber & Physical Security

- Regulatory
 - Treated Water
 - Hydroelectric / Dam Safety
 - Water Rights
- Regional Environmental & Localized Events
 - Climate Change
 - Wildfire
 - Avalanche & Landslides
- Financial

This is an open forum workshop, and public engagement is encouraged.

BUDGETARY IMPACT:

None at this time

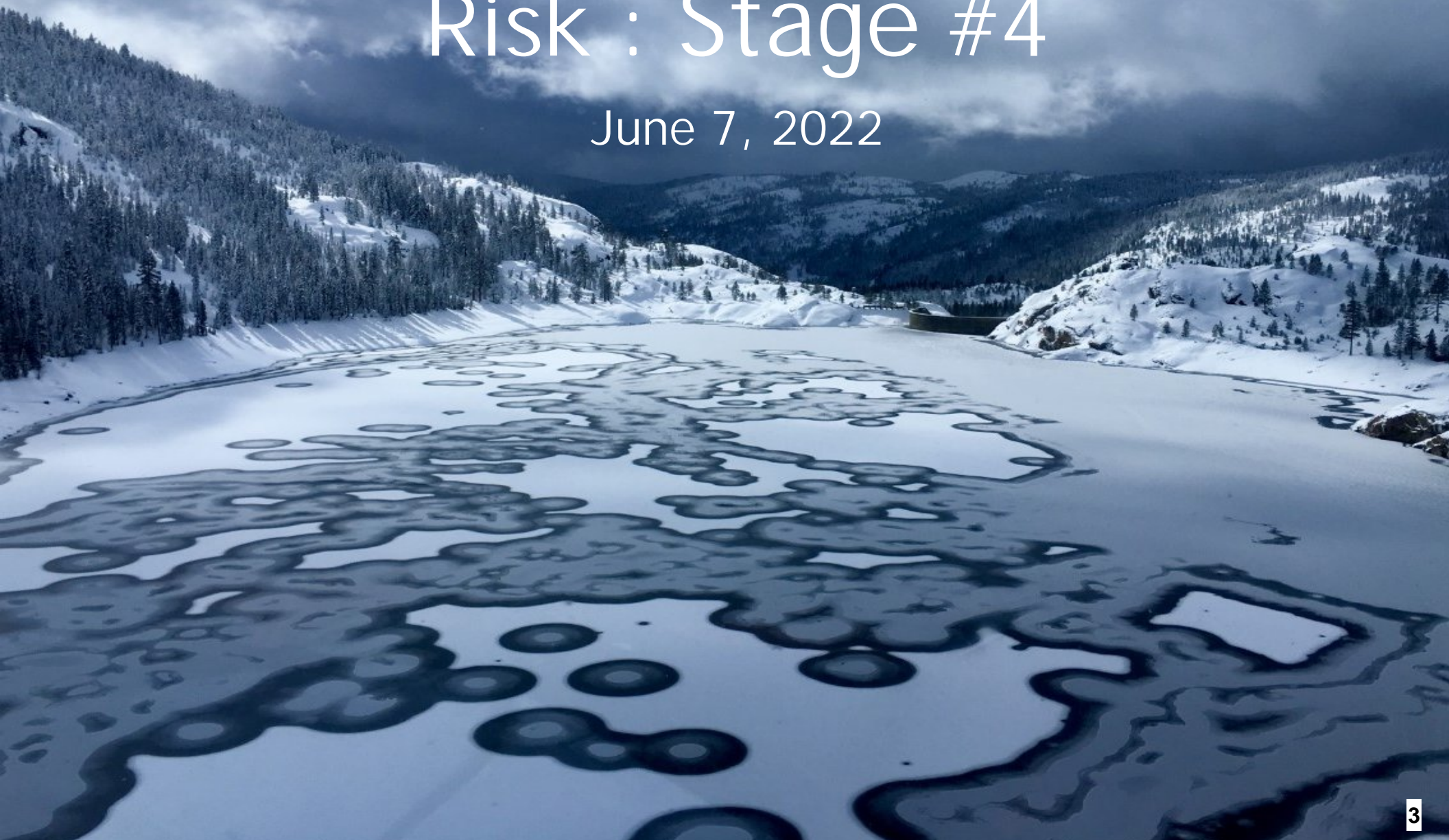
Attachments:

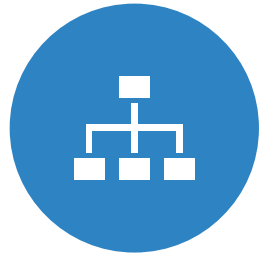
- PowerPoint – Workshop on Risk

NID Plan For Water Workshop

Risk : Stage #4

June 7, 2022





Business &
Operations



Regulatory



Financial



Environment &
Natural Events

Risks to NID : Many Different Forms

RISK

Why Should We Care

NID Delivers Water for Life!

Water Services

- ▶ >19,500 Treated Water Service Connections
- ▶ >5,500 Raw Water Connections
- ▶ >100,000 Population Served

Hydroelectric Services

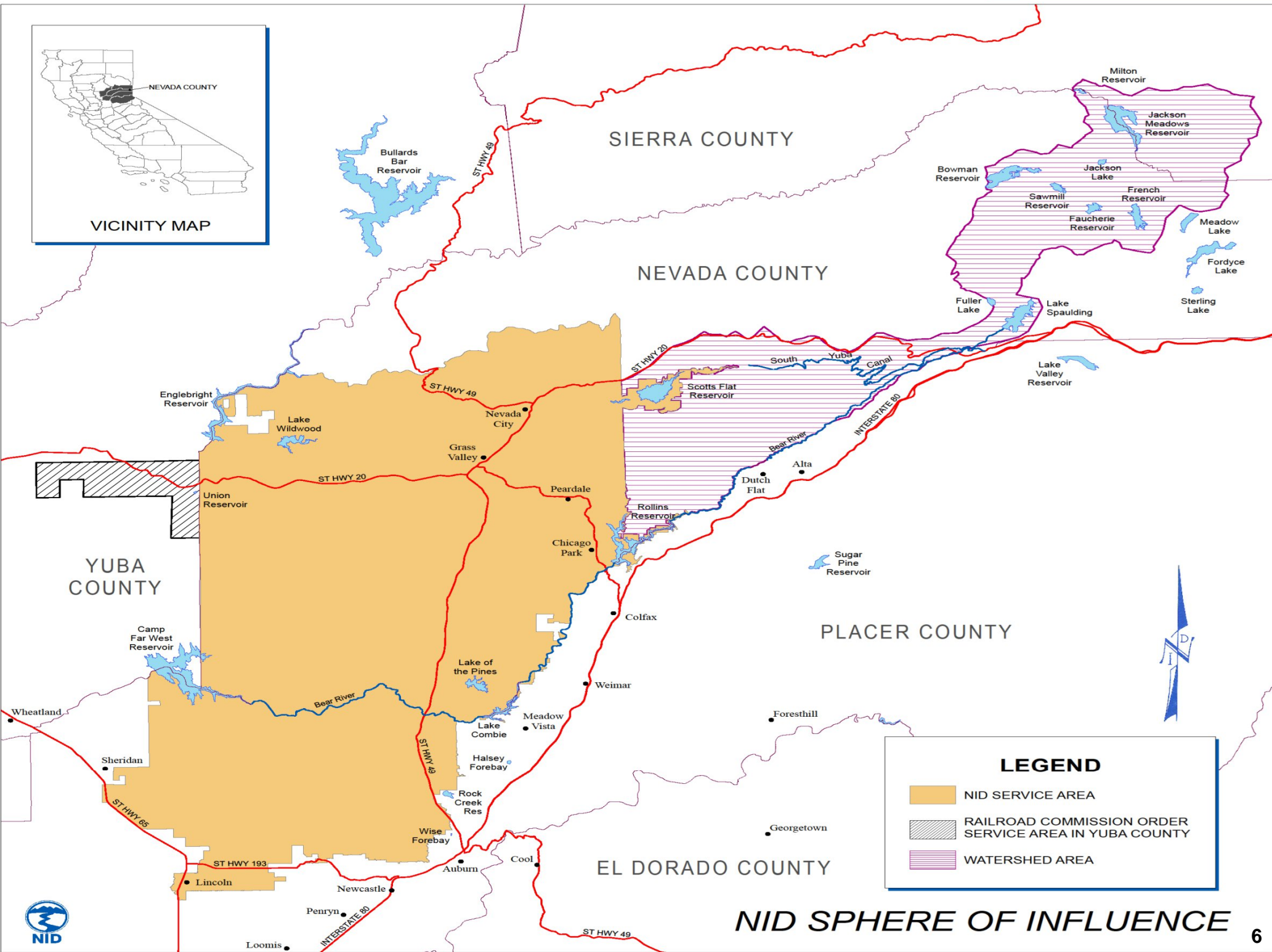
- ▶ 82MW - Enough to Power 60,000 homes
- ▶ Helps to Off-Set Water Rates

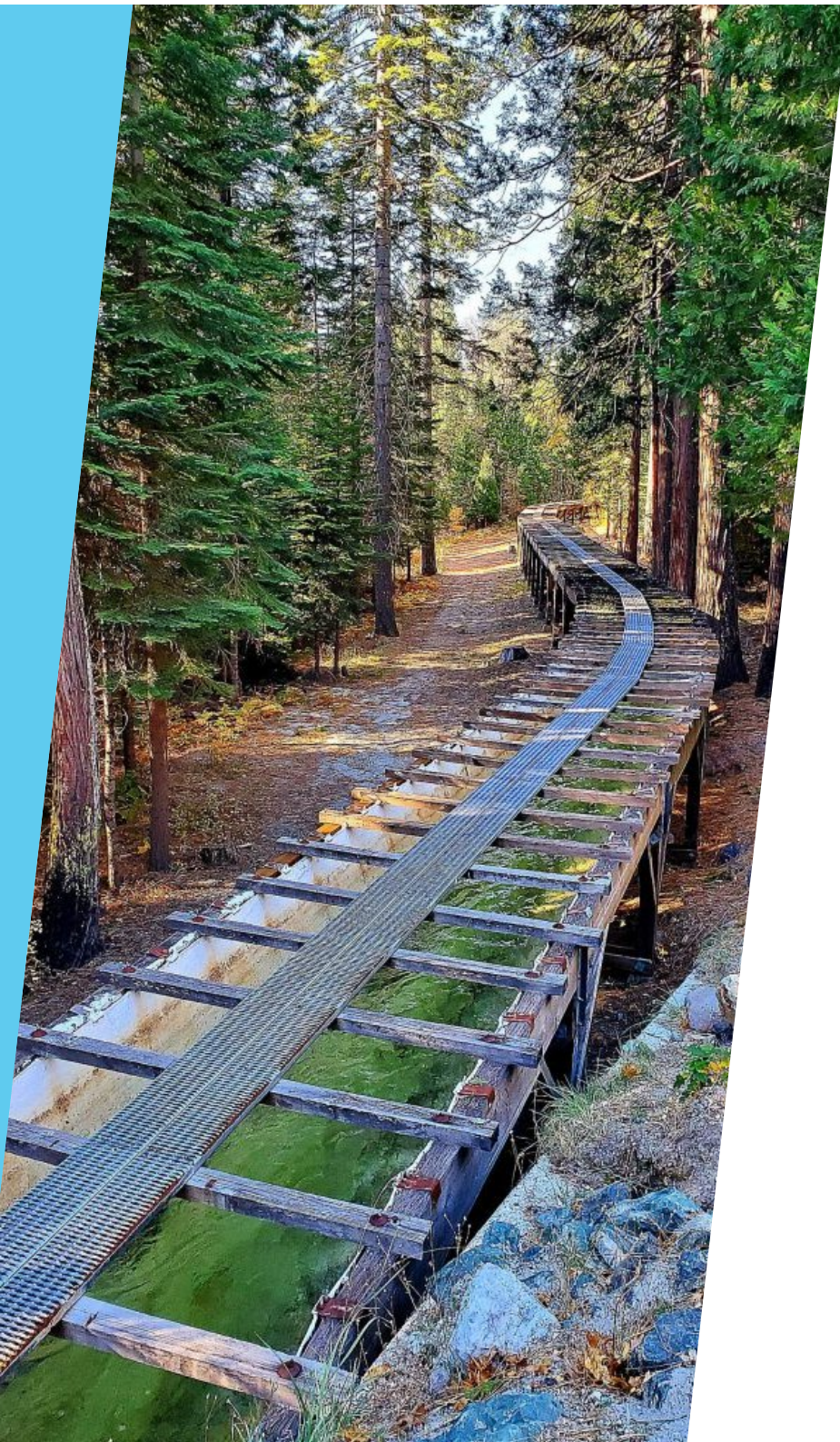
Recreation Services

- ▶ 8 Recreational Reservoirs in Sierra Nevada

Any facility, including infrastructure, property, equipment or service, that if adversely affected during a hazard event may result in severe consequences to public health and safety or interrupt essential services and operations for the community at any time. (2021 Placer County LHMP)







RISK

Business & Operations Critical Facilities & Aging Infrastructure

Water Treatment

- ▶ 6 Water Treatment Plants

Water Conveyance

- ▶ 500 Miles of Canal
- ▶ 400 Miles Treated Water Pipes
- ▶ 8 Storage Reservoirs

Power Generation

- ▶ 7 Powerhouses

Facilities

- ▶ Buildings, Workshops, Pump Stations, Water Tanks, Campgrounds, Gauging Stations, etc.

Fleet

- ▶ Passenger Vehicles, Heavy Equipment, Trailers, Snowmobiles, Boats, etc.

RISK Business & Operations: Human Resources, Employees & Culture

Employee Safety & Training

- ▶ > 50 Employee Safety Training Courses
 - ▶ Bloodborne Pathogens to Workplace Ergonomics

- ▶ Injuries & Accidents

Talent Recruitment & Retention

- ▶ Competitive Wage & Benefits
- ▶ Retirement Benefits
- ▶ Career Opportunities & Growth

Organizational Culture

- ▶ Great Place to Work
- ▶ Flexibility & Opportunity
- ▶ Productivity



RISK

Business & Operations: Public Safety

- ▶ Water Quality Health & Safety
 - ▶ Population of >100,000 Served
 - ▶ 26,000 Treated Water / 6,000 Raw Water Customers
- ▶ Recreational Visitation
 - ▶ 19 Campgrounds and Dispersed Camping
 - ▶ >300,000 Annual Recreation Visitors to NID Sites
- ▶ Dam Safety
 - ▶ 15 Dams Classified “High” to “Low” Risk (DSOD/FERC)
- ▶ Forested Lands
 - ▶ > 10,000 Acres Owned



RISK Business & Operations

Cyber Security & IT Infrastructure

- ▶ SCADA (Treatment & Hydro)
- ▶ Passive / Active Network Attacks
 - ▶ Attempt >10,000/month
 - ▶ 2021 Event
- ▶ Customer Protections
- ▶ Legacy Technology

Physical Facilities Security

- ▶ Theft / Vandalism
- ▶ Remote Sites / Cameras



RISK Regulatory

District-Wide

- ▶ Occupational Safety and Health Administration
- ▶ Permitting – Local and State
- ▶ Air Quality Control / Transportation
- ▶ Emergency Actions

Treated Water Quality

- ▶ State and Federal Public Health Standards
 - ▶ California Environmental Reporting System (CERs)
 - ▶ Northern Sierra Air Quality Management District (NSAQMD)
 - ▶ Department of Water Resources (DWR)
 - ▶ Nevada & Placer Co's Department of Public Health
 - ▶ State Water Resources Control Board – Division of Drinking Water (SWRCB)



RISK Regulatory

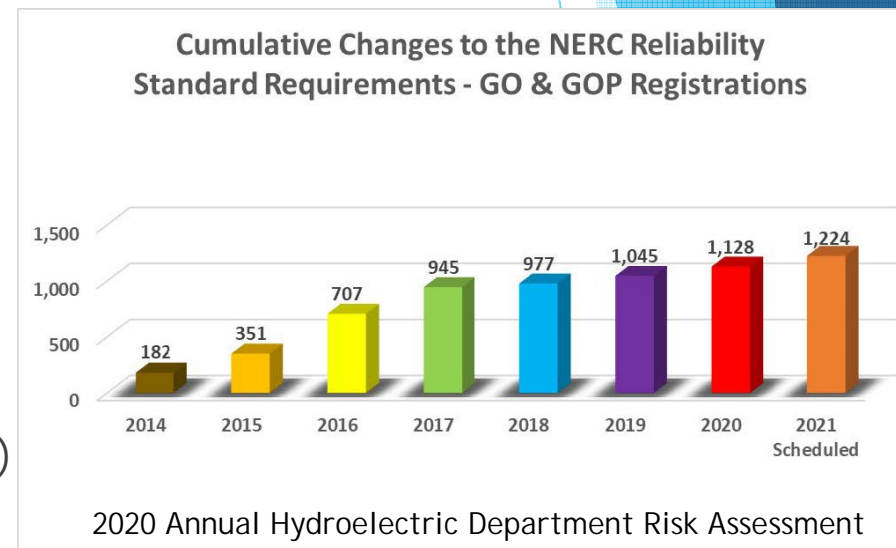
Hydroelectric

One of the biggest regulatory risks facing NID includes decisions or initiatives at FERC, such as reliability, security initiatives, dam safety, environmental, compliance, and re-licensing. Compliance falls to the following agencies:

- ▶ Federal Energy Regulatory Commission (FERC)
- ▶ U.S. Forest Service (USFS)
- ▶ U.S. Fish & Wildlife Service (USFWS)
- ▶ U.S. Geological Survey (USGS)
- ▶ Federal Communications Commission (FCC)
- ▶ North American Electric Reliability Corp (NERC)
- ▶ Western Electricity Coordinating Council (WECC)
- ▶ California Independent Systems Operator (CAISO)
- ▶ California Department of Fish & Wildlife (CDFW)
- ▶ California Energy Commission (CEC)

Dam Safety

- ▶ CA Department of Water Resources Division of Safety of Dams (DSOD)





RISK Regulatory

Water Rights & Use

- ▶ CA Emergency Declarations
- ▶ Curtailments / Bay-Delta Plan
- ▶ Unimpaired Flow / Voluntary Agreements
- ▶ License Renewals and Permit Processes
 - ▶ Opportunities to address environmental concerns
 - ▶ 401 Certification(s)
 - ▶ Federal / State Agencies / NGO



RISK

Regional Environmental & Localized Events

Climate Change : Reduced Snowpack, Drought & Reduced Water Availability

- ▶ Sierra Nevada is the headwaters for California providing 60% of the water supply for the state.
- ▶ Significant reductions in snowmelt due to wintertime warming of 1-2°C increasingly likely. (UC Irvine Mountain Snowpack and IPCC special report, 2018).
- ▶ Climate change exacerbates other hazards, such as drought, extreme heat, flooding, wildfire, and others.

RISK Regional Environmental & Localized Events

Catastrophic Wildfire / Tree Mortality

- ▶ Wildfire is an increasing threat to watersheds in the Sierra Nevada and throughout California due to forest conditions, human behaviors and our warming climate.
- ▶ 129 million dead trees on 8.9 million acres, 85% in the Sierra Nevada. Wildfire now occurring year-round, Nevada County is a high risk community. (USFS and CAL FIRE, 2017).



RISK
Regional
Environmental &
Localized Events

Avalanche & Landslides

- ▶ Avalanches occur when the weight of new snow increases stress faster than strength of the snowpack develops, causing the slope to fail.
- ▶ NID has critical water supply facilities in the high alpine watershed that supply a majority of the District's annual water needs. These facilities are located in remote, steep terrain that is subject to avalanche during heavy winters.
- ▶ The primary danger with an avalanche is the potential for blockage of canals and catastrophic damage to the many elevated flumes relied upon for conveyance.



RISK Financial

- ▶ Revenue
 - ▶ Water Rates
 - ▶ Hydroelectric Energy Markets
- ▶ Expense
 - ▶ Inflationary Trends
 - ▶ Outstanding Debt
 - ▶ Labor & Benefit Costs
 - ▶ Regulatory Costs
 - ▶ Emergency Costs

RISK Mitigation & Planning

- ▶ Employee Training
- ▶ Planning & Preparation
 - ▶ Emergency Action Plans
 - ▶ Emergency Response Plans
 - ▶ Hydroelectric Risk Assessments
 - ▶ Dams Public Safety Plans
 - ▶ Placer & Nevada Counties Local Hazard Mitigation Plans
 - ▶ NID Emergency Evacuation and Treatment Response Plan
 - ▶ Injury & Illness Prevention Plan
- ▶ **“Big Picture” Planning**
 - Long-Term Projections – Known & Unknown
 - Community Interests & Pressures
- ▶ Strategic Direction & Budget



THANK YOU
QUESTIONS?

