Northern Victoria Irrigation Renewal Project (NVIRP) is the state-owned entity charged with the planning, design and delivery the modernisation project.
Vision

- A strong and vibrant GMID community based on irrigated agriculture;
- A modern, efficient, real time, low energy, automated irrigation system;
- A system that ensures state of the art competitiveness for current and future irrigators;
- Improved customer service based around different customer groups;
- World class efficiency;
- A solid base for a viable irrigation community well into the future by investing $1 Billion in funding for Stage 1; and
- Vibrant and resilient environment.
Why Modernise?

- Infrastructure modernisation
  - Water savings
    - Improved level of service.
      - Shorter ordering times
      - More constant flow rates
      - Higher flow rates
        - Accelerates on-farm investment
          - Improved irrigation
            - Environment
            - Increased availability
            - Urban consumption
              - Improved use
              - More production
              - Less runoff
              - Catchment benefits (↓ nutrients, salinity)
Program of Modernisation

Automate regulators on backbone channels

Reduce outfalls, gather info re leaks & seeps, real time transmission of data to central location.

Connections Program

Identify where to rationalise delivery spurs & meters, requires consultation with irrigators ⇒ time.

Target leaks and seeps on backbone channels.

Rationalise and replace meters on backbone channels.
System Losses (estimated ranges)

Outfalls (8-12%)
Unplanned spills or releases that prevent water over-topping channel banks

Evaporation 10-15%

Leakage (25-30%)

Inaccurate metering (20-25%)

Seepage (10-15%)

Natural carriers and other unaccounted for water (15-20%)
The channel network makes use of natural waterways and creeks which must be managed with consideration for their environmental needs

(%) indicates the amount of loss that is attributed to this component as a proportion of the total channel distribution losses in the irrigation areas. The estimates are based on historical data and past research, and will be constantly improved as more of the network is automated.
Outfalls
Improved Metering
fairer sharing, improved service,
inaccurate meters reduce and delay allocations

Meter error
• Is not standard across all meters
• delays allocations to all customers
• reduces the volume of water available for allocation to all customers
Seepage and Leakage Losses
Remedial Work to Channels

large channel liner in progress
Job stimulus for region

- Over 500 workers engaged during peak period of project with over 1,100 workers inducted through OH&S
- Workers comprised local contractors and staff
- Created flow on effect to regional towns due to the increased demand for local services (accommodation, food etc)
Net savings principle

- Water savings are total (gross) volumes saved (e.g. from incidental outfalls) less the volumes of water required to ensure no net impacts due to the project on high environmental values.

- NVIRP only need to assess potential impacts of NVIRP. Separate from broader impacts such as drought, climate change and water trade.
Vic Environment Effects Act referral

• No EES required subject to conditions (refer att 2):
  – Condition 1 - construction impacts
  – Condition 2-6 – operations impacts to altered water regimes
Vic Environment Effects Act referral

- **Condition 2**
  - Expert review panel to provide independent advice to NIVRP on conditions 3, 4 and 5
  - Gov. considers the advice in the approvals
  - Final advice to be publicly available
  - Panel membership
    - Terry Hillman – floodplain and environmental water implications
    - Denis Flett – irrigation operations and hydrological implications
    - Jane Roberts – wetland and vegetation implications
Condition 3

• Assessment of impacts of NVIRP to env. values
• Principles and Strategies to mitigate impacts
  – net savings principle
• Process to identify and ground truth sites impacted
• Process to develop environmental watering plans
• Monitoring and review commitments / adaptive management

Outputs

• Water Change Management Framework
  – overseen by Technical Advisory Committee of water, land and environmental managers
  – Reviewed by Expert Review Panel
Vic Environment Effects Act Referral

• **Condition 4:**
  Assessment report on Murray, Goulburn and Barmah
  – Covers EPBC matters
  – Assesses implications of altered flow regimes to env. values including cumulative impacts

• **Output**
  – Assessment report to be prepared prior to Dec 2010
  – Assessment report to be overseen by Technical Advisory Panel of water, land and environmental managers
  – Review by Expert Review Panel
Vic Environment Effects Act referral

Condition 5 – Outputs

• Short-listing reports for wetlands and waterways
  – Confirm env. values and if outfalls actually reach sites
  – Site inspections
  – Discussions with local experts

• Overseen by Technical Advisory Committee of water, land and environmental managers

• Reviewed by Expert Review Panel
Vic Environmental Effects
Act Referral

**Condition 5 – Outputs**

- Environmental watering plans for ‘at risk’ sites - identifies
  - ‘desired’ ecological objectives and water regime
  - If outfall is material/beneficial
  - If yes - mitigate via water and/or works
  - Provides guidance to the use of other environmental water
  - 10 wetlands and up to five waterways require EWP’s

- EWPs
  - overseen by Technical Advisory Committee
  - reviewed by Expert Review Panel