

# General

## Irrigation Consumer Bill of Rights™

*Note: This supplements various Bills™ written for specific irrigation methods. Discuss these items with your irrigation dealer before purchasing your irrigation system. The discussion will help you to make wiser selections of design options, and to appreciate the obligations of both yourself and the dealer in creating your irrigation system.*

### Designer Qualifications

What are the dealer credentials (formal training, references, designer certification by The Irrigation Association, contractor's license, and/or professional agricultural engineer registration)?

### Design Features (General)

- What is the life expectancy of system components?
- What safety features have been included?
- What are the options for future upgrades?
- What is the recommended list of spare parts?

### Specific Operating/Design Parameters

- What will be the system distribution uniformity (DU) on the entire field when new, using the definition and formulas found in ITRC's *Drip and Micro Irrigation Design and Management* (5<sup>th</sup> edition or more recent)?
- Does the system provide climate control?
- Has the system been "blocked out" so that areas with different water requirements can be managed properly?
- If the field has plants with different spacings, ages, or varieties, what is the recommended procedure to provide the appropriate amount of water per acre per week to each block?
- Do the irrigation blocks correspond to varying soil types and aspects to the sun?

#### Water Requirements

- What are the peak daily needs (acre-inches) for a normal year?
- What is the system delivery capacity in 24 hours (acre-inches)?
- What is the anticipated amount of water to be used per year (acre-feet)?

#### Filtration

- Is filtration necessary, and if so, what type is provided?
- Has prefiltration (coarse filtration before the fine filters) been discussed as an option?

#### Flow Meter

- Does it measure both flow rate (GPM) and volume (acre-feet) applied?
- Does installation follow manufacturers' recommendations with regard to lengths of straight pipe, pipe diameter, and straightening vanes?

#### Energy Consumption

- Is it possible to pump all water during off-peak hours?
- What are the pump and motor/engine efficiencies?
- Is a pump curve showing GPM and pressure provided?
- Are ITRC specifications being followed for VFDs? ([www.itrc.org/reports/vfdspecifications.htm](http://www.itrc.org/reports/vfdspecifications.htm))
- Are the pump oiler tank and its position correct to provide a relatively constant drip rate as the tank empties? ([www.itrc.org/reports/pumpoildripper.htm](http://www.itrc.org/reports/pumpoildripper.htm))
- Is the pump discharge pressure close to 30 psi (achievable with a medium-sized flat field) for drip/micro systems?
- What is the energy cost per acre-foot?

#### Chemical Injection

- Are backflow prevention and safety devices provided?
- What is the capacity of the injectors, in gallons per hour?
- Can the equipment inject both fertilizers and other chemicals?
- Is the injector system capable of automatic proportional injection?
- Is there a separate injector and hose for each chemical?

#### Pressure, Air, and Flushing

- Are there adequate continuous air vents, vacuum relief valves, and flushouts?
- What are the number, type, and size of pressure relief valves?
- Is the pressure rating of all system components sufficiently high for the anticipated water temperature, surge pressures, and normal pressures?

### Warranties

- Who provides equipment installation, start-up, and adjustment?
- What are warranties on individual component and "system" design performance?
- Who is providing warranties and what do the warranties cover and exclude?
- Is the irrigation dealer a "full-service" dealer?
- Are the providers financially capable of standing behind their warranties?
- What is the availability of replacement parts?
- Will a packet containing manufacturers' literature, warranties, and operation instructions be provided?

The Irrigation Consumer Bill of Rights (ICBR) was developed by:



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