Than 60 days – the projected period for completion of punch list items, resolution of open change orders and delivery of closeout documents. But if the project close out is extended due to disputes with owner, the warranty that commences on final completion may not start for more than 90 days following substantial completion. With the warranty period extended, the contractor can be negatively impacted in various ways, including his ability to fulfill obligations on future projects, his bonding capacity and his bottom line.

For subcontractors conducting work in the earliest stage of a project, the impact of the commencement of warranty periods can be far greater. If a subcontractor completes an access road, other contractors then will use that roadway for site access long before project completion.

If subcontractor's warranty period commences only upon completion of the entire project, its accepted work may be subjected to substantial wear and tear long before the commencement of the warranty period, requiring the subcontractor to effectively provide a warranty extending from the completion of his work, through completion of the project (perhaps a year or two later), and then through one or two years thereafter.

If a project is suspended for any reason, wear and tear on work already performed likely would cause satisfactorily installed work to prematurely age, requiring warranty repairs that might not have otherwise arisen had the project progressed in accordance with its original schedule.

In negotiating warranties, contractors should be mindful of future projects. Contractors must consider the need to pull forces from the next project to return to a completed project for warranty work.

If warranty work requires special equipment already redeployed for new work, the new project could be delayed while resources are pulled to fulfill warranty obligations for a prior job. For a bonded job, a delayed completion date will tie up the contractor's bonding capacity further — particularly if a warranty bond is required, too.

Contractors should be prepared to stand behind the quality of their workmanship and materials. When negotiating warranty commencement dates and durations, however, contractors should give careful consideration as to how their work relates to the project overall; whether their completed work will be impacted by other (subsequent) work and/or delays, and to plan and protect themselves accordingly for the instant project as well as for future commitments.

n the commercial construction setting, warranties can be written to commence as of substantial or final completion, date of beneficial use or another agreed triggering event. The commencement date and duration of a warranty can greatly impact a contractor's financial and performance obligations for a project as well as for future work.

As an owner, the commencement and duration of warranties, and the types of warranties given, impact whether the owner will have the benefit of a contractor knowledgeable with the project to make timely repairs at no additional cost to the owner.

The Contractors

For a contractor, whether warranties commence upon substantial or final completion, the timing difference ideally would be no more

The Owners

When an owner hires a contractor, he expects to receive a quality product that he can use and occupy for many years. The owner expects the contractor to correct non-conforming or deficient work, and that this work be performed promptly — and at no cost to him.

The owners should consider the commencement of the warranty: Ideally, warranties will not commence until final completion. But contractors may press for warranties to commence on substantial completion.

In theory, the only open issues as of substantial completion (the criteria for which should be carefully defined) should be punch list items. Nevertheless, the owner's preference should be for warranties

to run from final completion, with deficiencies in work before that date being part of contractor's scope of work under the contract, prior to commencement of the warranty period.

The owner should consider warranty duration. Contractors generally will offer no more than one year. Depending upon the nature of the work, the complexity of the construction, and the systems serving the project, a longer warranty may be more appropriate.

How and when a warranty will run with multi-phased projects should also be considered. If Phase 1 is completed on Day 1, and Phase 2 is not completed until Day 180, the owner should consider whether one warranty for both phases would commence on Day 180. Or, alternatively, the owner may prefer two warranties — one for Phase 1, commencing on Day 1, and a second warranty for the entire project, commencing on completion of all phases.

If the warranty work is performed in the first year of a twoyear warranty, the owner should mandate that the warranty for the repaired work begin anew (another full two-year warranty period). If accepted, contractors may require an outside expiration date (e.g., three years from substantial completion), by which the warranty will expire for both original work and repaired work.

Warranties should be clear as to scope and standard. Will work be built to "accepted industry standards," or in accordance with "best industry practices?" At a minimum, contractors should warrant that materials are new when installed, work will be executed and completed in accordance with plans, and performed in a good, workmanlike manner.

If a warranty claim is asserted, parts and labor should be covered. If conforming work must be removed to access deficient work, the contractor also should bear the cost to remove and reinstall conforming work ("in and out" costs).

The contractor should be required to respond to a warranty claim within an agreed time frame. The contractor should agree to

return to the project and effect warranty work within (e.g.) 10 days. If the contractor fails to undertake warranty work, the owner should be able to self-perform and require contractor to reimburse owner.

Of course, the owner may then have to pursue the original contractor for such reimbursement; and the owner should consider, including an attorneys' fee clause in the underlying contract to cover the costs of such an action.

The owners should consider whether "special" warranties are appropriate for particular equipment or systems (e.g. an elevator or HVAC system), meriting longer warranty periods. With such warranties, owners should be mindful as to which entity is providing the warranty: the contractor or the manufacturer.

As with many issues in negotiation and performance of construction agreements, the interests of the contractors and the owners are competing and conflicting as to warranty undertakings.

For manufacturer warranties, the owner should confirm if:

- The manufacturer is reputable if the manufacturer is out of business or untraceable after completion, the warranty may be worthless
- The manufacturer has insurance with a reputable carrier
- The warranty is assignable from contractor to owner
- The scope of warranty coverage, including parts, labor and shipping costs
- Only manufacturer-certified contractors can maintain the system – and what activities could void the warranty
- There can be committed timing for warranty claim resolution

Finally, if the owner has concerns regarding the contractor's financial stability or reliability as to execution of warranted work, he should mandate financial support for warranty work, by warranty bond, letter of credit or other assurance.

As with many issues in negotiation and performance of construction agreements, the interests of the contractors and the owners are competing and conflicting as to warranty undertakings. While contractors seek to limit warranty obligations, owners press to maximize such protection.

Ideally, construction work will be performed in the first instance in accordance with agreed upon plans and standards; but when work or components fail, the terms of the warranty will define which party will bear the time and expense to redress the same. CCR

Michelle Schaap, a member at Chiesa Shahinian and Giantomasi, practices in the areas of construction law, corporate law and cyber security preparedness. Schaap devotes much of her practice to the negotiation of complex construction-related agreements, including construction management, architect and design-build agreements. Her extensive experience includes multimillion-dollar biotech research facilities, design-build agreements for amusement rides, and working with various clients to develop form agreements for planned expansion.