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# RIG SERVICES SCOPE DEVELOPMENT QUESTIONS

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Use the questions below to gather a base scope for plant reliability and pre-commissioning service jobs. Questions are separated by reliability or pre-commissioning first, then by service. For jobs with more than one service in the scope, use all applicable sections.

## RELIABILITY SERVICES



### Chemical Cleaning

1. What type of contamination are you trying to remove?
2. What metallurgy is included in the system?
3. Do you have P&ID's of the system?



### EHC Flushing

1. Are you performing a major turnaround on your steam turbine?
2. Do you have a copy of the latest oil analysis on your EHC system?
3. Are you seeing elevated acid counts or sticking valves?



### Embedded Technician Program

1. Are your maintenance personnel able to keep up with all your lubrication needs?
2. Where do you think you could improve your site lubrication program?
3. What are your biggest risks to production with your current lubrication program?



### Fluid Reconditioning

1. Do you have a recent oil analysis on the lubrication system?
2. Is water content within specifications to meet the equipment manufacturer criteria?
3. Is the particle count meeting the minimum ISO specification for the most critical part of the system?



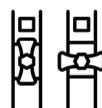
### Fluid Analysis

1. Do you have a recent oil analysis on the lubrication system?
2. How often are you testing your critical systems to production?
3. Have you set up alarms on your oil analysis to manage your systems cleanliness requirements?



### Filter and Breather Upgrades

1. Are you sampling your lubrication systems for cleanliness?
2. Are you meeting your required cleanliness levels?
3. What are you currently using to protect your systems from outside contamination?



### High Velocity Oil Flush

1. Do you have the latest oil analysis of the system?
2. Do you have the P&ID's of the system?
3. Do you have a site or manufacturer specification ISO cleanliness criteria?



### Varnish Mitigation

1. Do you have a recent oil analysis that includes varnish potential testing like MPC (Membrane Patch Colorimetry)?
2. Are you having problems with sticky valves?
3. Are you seeing discoloration and staining in your lube system?



### Reservoir and Tank Cleaning

1. Do you have a recent oil analysis on the lubrication system?
2. When was the last time your reservoir was cleaned?
3. Do you have high filtration use or do you drain water off frequently?



### Material Handling

1. How are you currently storing your lubricants?
2. Are you using product specific transfer equipment?
3. How are you protecting your system from foreign material incursion during lube fills?

## PRE-COMMISSIONING SERVICES



### Chemical Cleaning

1. What are you looking to clean and are P&IDs available?
2. What type of cleaning is requested?
3. Is there a chemical preference for the plant/client?



### Degreasing

1. What type of cleaning is requested?
2. Are there any environmental issues that we might encounter during waste disposal?
3. Is there a usable source of steam in the plant or should we provide a boiler?



### Hydrolazing

1. What size and length of pipe needs to be cleaned?
2. Hydrolazing requires a 3" or larger entry. Is this available?
3. Is potable water available?
4. Are there any environmental issues that we might encounter during waste disposal?



### Hydrotesting

1. What is being tested and do you have P&IDs?
2. What ASTM or ASME code is required on the test?
3. Is a chart recorder with temperature required and available?



### Slug Flushing

1. What type of debris is to be removed?
2. What size line is being slug flushed?
3. Are there any environmental issues that we might encounter during waste disposal?



### Steam Blowing

1. Is any rotating equipment in the path of the steam blow?
2. Is this a new installation or maintenance repair of existing steam piping?
3. If new installation: Does steam from new installation go to existing steam header?
4. Do you have copies of the cleanliness specifications from the rotating equipment manufacturer?



### Pigging

1. What debris is being removed?
2. Do they know the pig type or do they need help determining that?
3. Is blowing and or drying required?
4. Are there any environmental issues that we might encounter during waste disposal?

## CONTACT RELIABLE INDUSTRIAL GROUP (RIG)

To work with the industry leader in plant reliability and maintenance services, call 800-770-4510 today or learn more at [www.theRIGteam.com](http://www.theRIGteam.com)



*Contact us for more information:*

info@therigteam.com  
800-770-4510 (Domestic)  
+1 281-339-5751 (International)  
[www.TheRigTeam.com](http://www.TheRigTeam.com)

