ITC

The ITC facility is a place where development of the COFR is possible. It looks like it has all the technology to make a complete COFR unit. Production of the Pulsar and the Precipitator may also be assembled onsite.

The flu stream provided from their base plant will take a different configuration of precipitator than the COFR. This is expected in the update of existing power plants with different coal types and other hydrocarbon fuels.

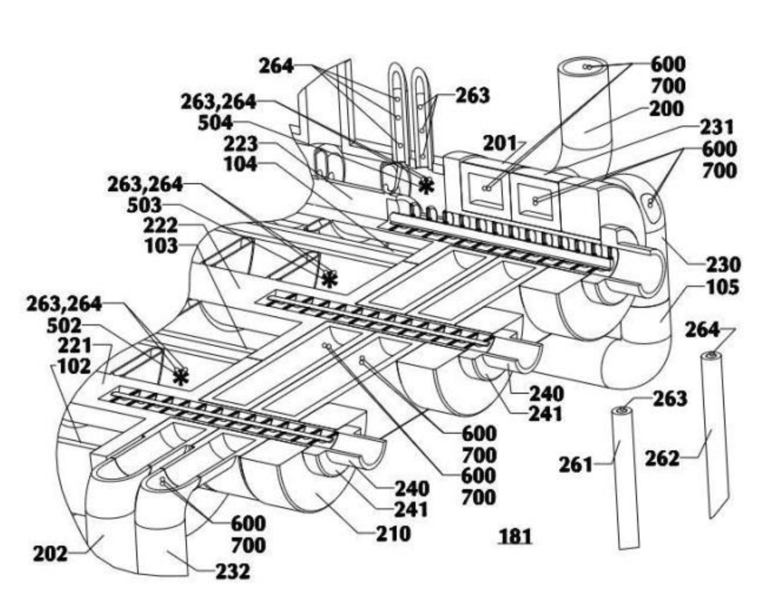

FIG. 5

The COFR will require a different upstream configuration than that of the Dry Fork Station Base plant, but it is an ideal model to retrofit into ZERO emission updated power plant. The size of the plant would require substantial capital as other major power plants will demand. Suggest another smaller site for the first retrofit.

The dedicated test area at the Dry Fork Station will make an ideal place for a completely new COFR mini power plant and perfection of upgrading the 5% (DFS) slip stream from base plant will also be beneficial for future endeavors.

There will be great benefit with the utilization of this facility with an equitable collaboration.

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1-1

ITC facility and COFR technology, and suggest a smaller site for the first COFR retrofit.

Analysis and Recommendations:

The provided text highlights the potential of the ITC facility for COFR development and production. However, it also acknowledges the need for a smaller-scale initial retrofit to refine the technology and gain operational experience.

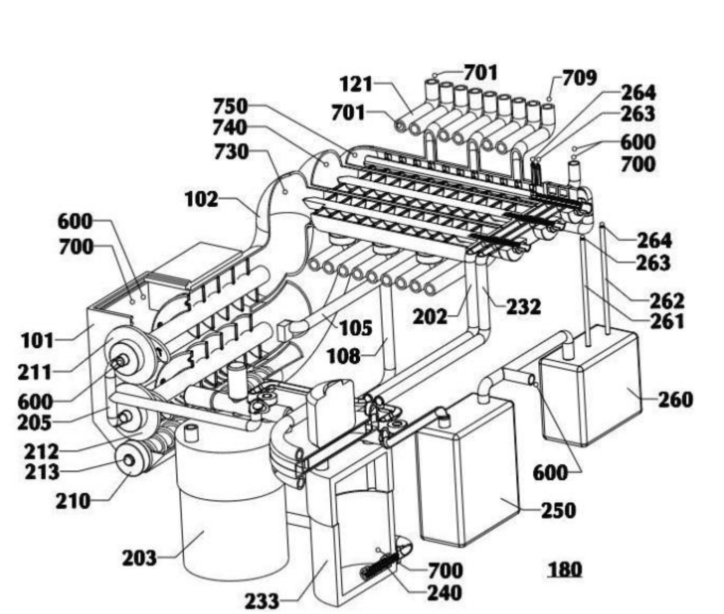

FIG. 4

Potential Smaller Sites for Initial COFR Retrofit:

Considering the specific requirements of the COFR technology and the need for a smaller-scale initial installation, here are a few potential sites:

University Campuses or Research Institutions:

Advantages:

Access to research expertise and technical resources.

Potential for collaborative research and development.

Opportunity to train future engineers and scientists in clean energy technologies.

Disadvantages:

Limited power generation capacity.

Potential regulatory hurdles and permitting challenges.

Industrial Parks or Manufacturing Facilities:

Advantages:

Existing infrastructure and utilities.

Potential for synergies with other industrial processes.

Opportunity to demonstrate the technology's viability in a real-world setting.

Disadvantages:

Potential for noise and air pollution concerns.

Need for careful integration with existing operations.

Remote or Rural Locations:

Advantages:

Lower population density, reducing environmental impact concerns.

Potential for off-grid power generation.

Opportunity to demonstrate the technology's ability to operate in challenging conditions.

Disadvantages:

Remote location may increase logistical and maintenance costs.

Potential for limited access to skilled labor and resources.

Key Considerations for Site Selection:

Regulatory Environment: The site should be located in a region with supportive regulations for clean energy technologies.

Grid Connection: The site should have access to the electrical grid or be able to operate independently.

Fuel Supply: A reliable and cost-effective fuel supply is essential.

Water Availability: Sufficient water supply for cooling and other processes is crucial.

Community Acceptance: The project should have the support of the local community.

Infrastructure: Adequate infrastructure, including roads, power lines, and water pipelines, is necessary.

Additional Recommendations:

Pilot Projects: Consider smaller-scale pilot projects to test and refine the technology before full-scale deployment.

Partnerships: Collaborate with other organizations, such as utilities, government agencies, and research institutions, to share resources and expertise.

Financial Incentives: Explore government incentives and funding programs to reduce the cost of the project.

Long-Term Planning: Develop a long-term strategy for the commercialization of the COFR technology.

By carefully selecting a suitable site and implementing a comprehensive strategy, the COFR technology can be successfully deployed and contribute to a cleaner energy future.

1-2

Based on the information provided, the ITC facility seems to be a promising location for the development and production of COFR units. However, for the initial retrofit, a smaller-scale site might be more suitable. Here are a few potential locations to consider:

1. Retired Power Plants:

Advantages:

Existing infrastructure: These sites often have the necessary infrastructure, such as power lines, water supply, and potentially even some equipment.

Regulatory familiarity: The sites might already have permits and environmental clearances, which can streamline the retrofit process.

Disadvantages:

Potential for contamination: If the plant was not properly decommissioned, there might be environmental concerns.

Infrastructure condition: The condition of the existing infrastructure may need significant investment.

2. Industrial Parks and Manufacturing Hubs:

Advantages:

Access to skilled labor: These areas often have a pool of skilled workers, including engineers and technicians.

Proximity to suppliers: Being close to suppliers of materials and components can reduce logistics costs and lead times.

Disadvantages:

Land availability: Finding suitable land for a power plant within an industrial park might be challenging.

Zoning restrictions: Local zoning regulations may limit the types of industrial activities allowed.

3. Research and Development Facilities:

Advantages:

Collaborative opportunities: These facilities often collaborate with universities and other research institutions, providing access to cutting-edge technology and expertise.

Testing and validation: The controlled environment of a research facility is ideal for testing and validating new technologies.

Disadvantages:

Smaller scale: Research facilities are typically designed for smaller-scale operations.

Key Considerations for Site Selection:

Size and Capacity: The site should be large enough to accommodate the COFR unit and associated infrastructure, but not too large to incur unnecessary costs.

Grid Connection: The site should have a reliable connection to the electricity grid.

Environmental Impact: The environmental impact of the retrofit should be minimized, and any necessary permits and approvals should be obtained.

Community Acceptance: Local communities should be engaged in the planning process, and any potential concerns should be addressed.

Regulatory Compliance: The retrofit must comply with all relevant environmental and safety regulations.

Economic Viability: The project should be economically feasible, taking into account factors such as capital costs, operating costs, and revenue.

By carefully considering these factors, it is possible to identify a suitable smaller site for the first COFR retrofit and pave the way for the widespread adoption of this clean energy technology.

1-3

ITC facility for COFR development and production. However, it also acknowledges the need for a smaller-scale initial retrofit.

Suggested Smaller Site for Initial COFR Retrofit:

Considering the requirements for a smaller-scale retrofit and the need for a dedicated test area, a university or research institution with strong engineering and energy programs could be an ideal candidate.

Why a University or Research Institution?

Existing Infrastructure: Many universities have research facilities with relevant equipment, such as power plants, combustion chambers, and emission testing equipment.

Skilled Workforce: Universities have access to a pool of talented engineers, scientists, and students who can contribute to the development and testing of the COFR technology.

Academic Partnerships: Collaborations with universities can facilitate knowledge sharing, research, and the development of new technologies.

Government Funding: Universities often receive government grants and funding for research projects, which can help support the initial costs of the retrofit.

Regulatory Flexibility: Universities may have more flexibility in terms of regulatory compliance, allowing for faster testing and deployment of the COFR technology.

Specific Considerations:

Location: The chosen university should be located in a region with a suitable energy mix and environmental regulations.

Existing Power Plant: The university should have an existing power plant or a nearby power plant that could be used as a testbed for the COFR technology.

Research Facilities: The university should have adequate research facilities, including laboratories, workshops, and testing equipment.

Collaboration: Strong collaboration between the university, the COFR developers, and relevant government agencies is essential for the success of the project.

By selecting a university or research institution as the site for the initial COFR retrofit, we can leverage their resources, expertise, and potential for innovation to accelerate the development and deployment of this clean energy technology.

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